

## Beyond the Price System

### Politics, Religion & Economics in the Price System



**An examination of some aspects of the political Price System... as contrasted to the system of government proposed in the Technocracy Study Course.**

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For further information:

Attn. S. R. Serv

P.O. Box 19122 Minneapolis MN 55419 U.S.A.

Email [s.r.serv@gmail.com](mailto:s.r.serv@gmail.com)

### **Chapter 1. Sumeria/Mesopotamia, the creation of civilization & the current economic situation.**

Major conflicts have developed in the operation of our social system (Oct. 2008). Attempts to add *bad* corporate debt in the U. S., to the general debt of the American people, is currently the object of much contention. An effort to *preserve* this bad debt is being made.

This method of debt preservation is historically typical of how a political Price System method maintains its mainstream economic principles.

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The assumptions of the political Price System hearken back thousands of years to an epoch of low energy conversion and class/caste control.

What are some reasons this method of debt preservation is used?

Number one ... all new debt creation is based on old debt, and the Price System as employed must grow... or it collapses. That which ceases to function, ceases to exist.

A problem arises when the ecological limits of growth are reached in relation to the sustainable resources of a closed system like the earth. A money based system values only *profit*, an abstract concept. That fails to protect the natural world, since debt tokens are not a real measurement of anything.

Since the limits of what the environment can tolerate, is not reflected, or considered, in monetary economics, as practiced in the early 21st century, the political Price System eventually either reforms into something else, or it destroys its self through lack of understanding of its dynamics by the general population and also lack of understanding of the power possessors who run it. Those *leaders* also do not grasp the dynamic and historical context of how our system operates as it does, and why it will not work in the soon to be future, unless in a collapsed and even more feudalistic context.

Basic lack of education can partly explain this dynamic, as the current political Price System poorly educates its citizens... and can also be viewed as providing information that is akin to propaganda, thus the Price System brand of abstract concepts is negatively reinforced... instead of providing *good* or neutral objective information.

This is due to the influence of special interest groups that have power in the realm of corporate control of mainstream media. In other words... brainwashing information as opposed to educating people, is the norm of public relations, based on the notion of propaganda or deception, whether on television or in the classroom.

Special interest faction control of media and education is the

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norm, and *money/debt tokens* can be tracked also as the arbiter of decision making in a Price System... control of money, increasing sources of money and power to special interest groups is the main focus.

### History

As a society we currently employ a folkway tradition that comes to us from the classical world of debt preservation economics. What is the historic backdrop to understand the current events in the Price System context of dysfunctional governance and archaic methods of social control?

How does this relate to the concept of debt now, as many people think of debt, and the periodic cancellation of debt that was practiced in the Sumerian concept of usury... which differed with our current approach to debt?

How does all that relate then to energy conversion... in a high technology civilization as we presently have, where the amount of energy converted to afford the modern lifestyle is astronomical compared to previous time periods stretching from the advent of civil society and advancing technology in Sumer to the discovery of thermodynamics and the early twentieth century with the introduction of multiple energy appliances that have replaced humans for the most part in the concept of doing *work*?

In attempting to keep the political Price System patched up and working, debt cancellation was not discussed, and is not going to be used unless society gets into an extreme emergency, if it is used at all, because that method goes against *modern* ideas of money based economics.

Debt cancellation, even if used in our present time period would still not address a transition to viable change, an economic structure based on a functional system would not use money, but would use an energy metric. Only in that way will ecological sustainability concerns be addressed.

The Sumerians understood exponential math and money. They knew that fairness or a partial attempt of it in a Price System is

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not possible... and periodic debt cancellation was one method in a Price System that could help maintain civil order, partially prevent debt servitude or limit its effects, and also somewhat limit the piling up of money or property into the hands of so called upper class groups. To this purpose they invented the first written law codes that dealt with economic issues, behavior issues (thou shall not type things, legislated morality), and contract law that specified some do's and do not's in their original incarnation of the political Price System invention of civilization.

Building periodic debt forgiveness into the basis of the invention of the original money economic civilization of early Mesopotamia was one of that systems critical features.

That system was dependent on human labor which we no longer use in the same way in our high energy conversion system now. *Productivity* and *labor* are differently framed now as issues compared to the past, due again to energy conversion, energy appliances etc.

Price System economics in use now from the pre-industrial-revolution age... with its Adam Smith definitions, from a time of handcraft production, dominated by low energy conversion and scarcity, is an antique system.

A combination of no debt cancellation in the current system... loss of purchasing power from job loss due to energy conversion replacing human labor... destruction of the resource base of the natural world bringing a lack of sustainability... and modern political/money control, not scientific control... brings the period we are living in now, to a crashing end in chaos at some point, unless it is transformed into a different entity.

In other words our current social control system barely works, in our high energy civilization, and can not be made to work functionally, as it values nothing real in terms of the natural world and depends on propaganda to inculcate its values. Propaganda has no real value when dealing with real problems.

### **Debt, politics and history**

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A major reason why the practice of debt cancellation did not spread to the Mediterranean lands in classical antiquity was that the character of kingship itself was changing away from the *divine kingship*, so called, of Sumer and early Babylonia toward the more oligarchic political systems found in Greek and Italian city-states.

One of these early models sometimes labeled as *democracy*, is bandied about and the term democracy in contemporary society means practically nothing in real terms. Probably the most noted feature of so called democracies currently is the control of their structures by special interest groups.

These generally act to deprive opposing special interest groups or attempt to, of one thing or another and gain as much for their own special interest group faction as is possible.

Modern democracies are controlled almost exclusively by corporate business special interest faction groups that provide the media platform for so called political elections... and determine issues and how they are discussed (media control).

This is not an illuminating process for any one involved... and this process revolves around future profits or powers... garnered or attempted by these special interest groups, with their usage of *public relations* or propaganda.

### **The main thesis of *Beyond the Price System***

Society is using classical debt based/profit based economics, developed after the original debt cancellation economies of Sumer. The Sumerian understanding of exponential usury and its effects exceeded our contemporary understanding of our current Price System, debt system.

Since modern economics is built primarily on the profit motive, and preserving debt, modern economics dooms itself, by destroying its subjects, as it gives environmental and sustainability issues no meaningful consideration, money or *debt tokens* only, are used as the #1 arbiter of perceived choice.

Purchasing power to consumers is also eliminated more and more because of the conversion of energy and mechanization replacing

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what in the past was considered *work*. Productivity is measured in machine power and energy, no longer human labor, of which very few jobs now depend, and even the remaining ones that do... depend on high tech appliances of one kind or another that further eliminate jobs that had to formerly be done by many workers.

The labor theory of value, the basis of capitalism and communism... and all the former *isms* no longer works. Job elimination by high technology eliminates so called jobs... many of which do not actually do any thing important or real anyway (banking, insurance, etc.) but actually just maintain a money/debt class system.

### **Now what?**

A succession of poor choices have accumulated and the survival of human kind is now an issue.

For this reason... an economy based on energy accounting... as envisioned by the Technical Alliance, in the *Technocracy Study Course*, is advocated as a replacement for the current type of political Price System control of the North American economy which at present controls much of the worlds economy with its elaborate debt schemes supported in actuality by its large resource base (real wealth which is non monetary).

The resource base, installed technology, and trained personnel of North America can allow a change into a scientific functional social design which protects the natural world. The land area of (North America) can convert to a technate system.

At that point, a North American technate may provide an example to the world of a creative, sustainable, secular and humanitarian, science based social design.

### **Further reading and historical summary**

Interest charges for commercial and agrarian debts appear to have originated in Sumer's temples and palaces in the third millennium BC. It is thought that the least documented form is likely to have been the original one: Interest was charged on advances of workshop handicrafts to traveling merchants associated with these large institutions as officials or holders of *damgar* status (a merchant class group). Other lenders adopted the practices pioneered by their institutions. In addition to placing their own money with merchants (who

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often were their own relatives), they made distress loans to cultivators who lacked the money to pay the fees owed to the palace or temples, or who needed food and other resources in times of crop failure or military devastation of the land, or as a result of illness, incapacity or other hardship. However, most agrarian debts stemmed from sharecropping arrangements with the large institutions, whose anticipated crop share was recorded as a debt owed by the cultivators.

Advances of barley, seed, water, and money to pay the various types of fees owed to the palace were charged at the same rate of interest as the rate at which land was advanced. This meant that the higher rates for agrarian interest than commercial interest reflected sharecropping rates that were applied across the board to agricultural debts in general. Impoverished cultivators were obliged to pay the same rate for advances of barley or food for their own consumption or other emergency needs as they paid for the advance of productive assets. Once they fell behind in their payments, their debts tended to mount up at arrears at exorbitant rates.

In this phenomenon we find the origin of classical usury. The stipulated interest charges had to be paid by the cultivator out of other revenue (and often there was none) or by relinquishing his assets. Living near the margin of subsistence, he often was obliged to pledge the labor services of his family members (his daughters, wife, sons or house-slaves) as collateral to work off the interest and debt charges.

These family assets typically were pledged to royal collectors acting in their personal capacity, using interest-bearing debt as a means to obtain income and, ultimately even more important, the land's usufruct from strapped debtors. By the time three years had elapsed, these interest charges typically had grown as large as the original debt. (§88 of Hammurabi's laws limited the barley-interest rate to the commercial rate of 20 percent, in modern terms. But this ruling seems not to have been followed in practice.) This doubling seems to have underlain §117 of these laws, wiping out the barley obligation once the antichretic interest supplied by the debtor's family members had "worked off" the debt.

This kind of agrarian usury, along with commercial lending by well-to-do private individuals acting increasingly on their own, represented an adoption of originally public institutional practices. The interest rate was set formerly not by the profitability of commercial advances to merchant-debtors, but by the need for simplicity of calculation, *i.e.*, more by mathematical than by "economic" considerations.

The line of diffusion ran from Mesopotamia's initially temple-and palace-centered practices to the population at large. Geographically, these practices diffused from Mesopotamia up along the Euphrates to the northeast, eastward to the Mediterranean and to the Assyrian trade colonies in central Turkey (Cappadocia). But it apparently took until the 8<sup>th</sup> century BC for the practice of charging interest to pass to the Aegean, the Greek mainland and to Italy. As late as the 13<sup>th</sup> century BC there is little trace of interest charges in Ugarit, the Hittite lands, Crete or Mycenaean Greece.

The problem of how the earliest interest rates were determined is important for a number of reasons. A modern economic analysis would explain why interest rates could *afford* to be paid. If interest indeed could normally be paid, there would have been little need for debt cancellations. A related consequence is whether the apparent decline in interest rates over the course of antiquity resulted from economic causes such as profit rates, soil and capital productivity, the spread of money exchange, greater security of investment and so forth, or from non-economic considerations.

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The key to tracing the historical origin and spread of interest-bearing debt lies in a careful economic definition of just what interest was. What makes the formal charging of interest different from, say, the informal web of "anthropological" obligations is that it is specified as to its amount as precisely the unit-fraction,  $1/60$ th per month. The time of repayment or accrual of interest is specified in advance (first written contract laws). Thus, rather than being open-ended as in gift exchange, it is closed-ended as far as the timing of the payment is concerned. (For Assyrian commercial loans, this time period was five years, when 60 months had passed and the original loan had fully reproduced itself, and compound interest could begin. For shorter-term loans, It is suspected that the key calendrical date was the new moon, as it was in classical Greece.) Failure to repay does not result simply in losing face and status; it permits the creditor to proceed with formal foreclosure proceedings, leading to debt-bondage and forfeiture of land-rights, and hence of the most essential means of self-support for community members.

Economic institutions mutate in the process of being transplanted from one context to another, from centralized to decentralized economies, from large-scale to small-scale economic institutions. With regard to the idea of diffusion, it should be borne in mind that there are no pristine tribal societies in today's world. Nearly all appear to reflect culture contact, borrowings and adaptations. By the 19th century, there were scarcely any pristine relations to be discovered, except by consulting the historical and prehistoric records. In any case, the idea of taking a "primitive tribe" as an analogue for Sumer rests on the assumption that there is a single, linear, genetic pattern based on "stages of development."

There has been some attempt to search throughout the world's tribally based societies to find the kind of relationships that might "logically" have been developed under similar material conditions similar to those of Sumer. The working assumption is that similar economic challenges produce similar solutions. Thus, early in the 20th century, Marcel Mauss interpreted tribal gift-exchange as an analogue for interest-bearing debt, and imagined this to have provided the prototypical origin of what, in time, became a regular periodic payment, stipulated in advance. He then described the rather curious gift exchange practices of the Kwakiutl of the northwest American Pacific coast as an example.

It can be asserted that this conflates two quite different phenomena. What occurred in Sumer was above all an economic/political/religious revolution going beyond "anthropological" relationships. We therefore could inquire how Sumerian developments shaped Babylonia and the rest of the Near East, and how these regions shaped classical antiquity's development, which in turn shaped subsequent European practice and current corporate globalism methods.

Ancient civilization only happened once, and it occurred in a particular way. Its economic dynamics, above all the dynamics of interest-bearing debt, can be traced from Mesopotamia via classical antiquity, up the coast of Europe, to North America and also to Asia. There may well have been a broad range of ways in which the world economy could have developed. Our civilization was not destined inevitably to have evolved in just the way it did. A wide variety of possible mutations and combinations offered itself.

This book explores the past and advocates for a different economic approach based on the metrics of energy rather than money (debt tokens)... in a secular humanitarian non political system originally proposed by the Technical Alliance in the book published by Technocracy Incorporated, the *Technocracy Study Course*.

Forming a creative scientific social design based on human equality and sustainability, a technate design method may be by default, the only viable method to change into a society which does not destroy itself for the desultory purpose of money making.

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While a money system arguably had some benefits in the past... and provided some stability to a degree in the past... in the modern high technology and high energy conversion system of a place such as North America... a money system fails, because of the changed dynamic of energy conversion and machine productivity, rather than human labor being critical. Technology destroys the Price System as purchasing power in a Price System is based on so called *working*.

### **Getting something for nothing: Excerpted from *Prescription For Survival* M. King Hubbert geoscientist & advocate of the technocracy technate design.**

In the distribution to the public of the products of industry, the failure of the present system is the direct result of the faulty premise upon which it is based. This is: that somehow a man is able by his personal services to render to society the equivalent of what he receives, from which it follows that the distribution to each shall be in accordance with the services rendered and that those who do not work must not eat. This is what our propagandists call 'the impossibility of getting something for nothing.'

Aside from the fact that only by means of the sophistries of lawyers and economists can it be explained how, on this basis, those who do nothing at all frequently receive the largest shares of the national income, the simple fact is that it is impossible for any man to contribute to the social system the physical equivalent of what it costs the system to maintain him from birth till death--and the higher the physical standard of living the greater is this discrepancy. This is because man is an engine operating under the limitations of the same physical laws as any other engine. The energy that it takes to operate him is several times as much as any amount of work he can possibly perform. If, in addition to his food, he receives also the products of modern industry, this is due to the fact that material and energy resources happen to be available and, as compared with any contribution he can make, constitute a free gift from heaven.

Stated more specifically, it costs the social system on the North American Continent the energy equivalent to nearly 10 tons of coal per year to maintain one man at the average present standard of living, and no contribution he can possibly make in terms of the energy conversion of his individual effort will ever repay the social system the cost of his social maintenance. Is it not to be wondered at, therefore, that a distributive mechanism based upon so rank a fallacy should fail to distribute; the marvel is that it has worked as well as it has.

Since any human being, regardless of his personal contribution, is a social dependent with respect to the energy resources upon which society operates, and since every operation within a given society is effected at the cost of a degradation of an available supply of energy, this energy degradation, measured in appropriate physical units such as kilowatt-hours, constitutes the common physical cost of all social operations. Since also the energy-cost of maintaining a human being exceeds by a large amount his ability to repay, we can abandon the fiction that what one is to receive is in payment for what one has done, and recognize that what we are really doing is utilizing the bounty that nature has provided us.

Under these circumstances we recognize that we all are getting something for nothing, and the simplest way of effecting distribution is on a basis of equality, especially so when it is considered that production can be set equal to the limit of our capacity to consume, commensurate with adequate conservation of our physical resources.

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### **Income in units of energy**

On this basis our distribution then becomes foolproof and incredibly simple. We keep our records of the physical costs of production in terms of the amount of extraneous energy degraded. We set industrial production arbitrarily at a rate equal to the saturation of the physical capacity of our public to consume. We distribute purchasing power in the form of energy certificates to the public, the amount issued to each being equivalent to his pro rata share of the energy-cost of the consumer goods and services to be produced during the balanced-load period for which the certificates are issued. These certificates bear the identification of the person to whom issued and are non negotiable. They resemble a bank check in that they bear no face denomination, this being entered at the time of spending. They are surrendered upon the purchase of goods or services at any center of distribution and are permanently canceled, becoming entries in a uniform accounting system. Being nonnegotiable they cannot be lost, stolen, gambled, or given away because they are invalid in the hands of any person other than the one to whom issued. If lost, like a bank checkbook, new ones may be had for the asking. Neither can they be saved because they become void at the termination of the two-year period for which they are issued. They can only be spent.

Contrary to the Price System rules, the purchasing power of an individual is no longer based upon the fallacious premise that a man is being paid in proportion to the so-called 'value' of his work (since it is a physical fact that what he receives is greatly in excess of his individual effort) but upon the equal pro rata division of the net energy degraded in the production of consumer goods and services. In this manner the income of an individual is in nowise dependent upon the nature of his work, and we are then left free to reduce the working hours of our population to as low a level as technological advancement will allow, without in any manner jeopardizing the national or individual income, and without the slightest unemployment problem or poverty." M. King Hubbert... contributor to the *Technocracy Study Course*.

### **Links of interest in relation to the early development of culture & viable future social change**

<http://www.technocracy.org/natureofgrowth.htm> M. King Hubbert

<http://www.technocracy.org/prescription%20for%20Surviving.htm> M. King Hubbert

A comparative history of ancient cultural origins, [Understanding Early Civilizations Bruce G. Trigger 9780521822459ws.pdf \(application/pdf Object\)](#)

also, [THE LOST TRADITION OF BIBLICAL DEBT CANCELLATIONS Michael Hudson, PhD. "The rich ruleth over the poor and , the borrower is slave to the lender." Proverbs 22:7](#)

also, [Babylonian Law--The Code of Hammurabi. By the Rev. Claude Hermann Walter Johns, M.A. Litt.D. from the Eleventh Edition of the Encyclopedia Britannica, 1910-1911](#)

and [Did the Phoenicians Introduce the Idea of Interest to Greece and Italy; and if so When? Michael Hudson.](#)

## **Chapter 2. Money, history & energy conversion**

### **Some historic aspects of money**

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The Technocracy Technate design uses Energy Accounting as the viable alternative to the current Price System. [Energy Accounting-Fezer](#)

### The Emergence of money

The use of [barter](#) like methods may date back to at least 100,000 years ago.

To organize production and to distribute goods and services among their populations, pre-market economies relied on [tradition](#), top-down [command](#), or community cooperation.

Relations of [reciprocity](#) and/or [redistribution](#) substituted for market exchange.

Trading in [red ochre](#) is attested in [Swaziland](#). Shell [jewellery](#) in the form of strung beads also dates back to this period and had the basic attributes needed of [commodity money](#).

In cultures where metal working was unknown... shell or ivory jewellery was the most divisible, easily stored and transportable, relatively scarce, and impossible to counterfeit type of object that could be made into a coveted stylized ornament or trading object.

It is highly unlikely that there were formal markets in 100,000 [B.P.](#) Nevertheless... something akin to our currently used concept of money was useful in frequent transactions of hunter-gatherer cultures, possibly for such things as bride purchase, prostitution, splitting possessions upon death, tribute, obtaining otherwise scarce objects or material, inter-tribal trade in hunting ground rights.. and acquiring handcrafted implements.

All of these transactions suffer from some basic problems of barter — they require a [coincidence of wants](#) or events.

### History of the beginnings of our current system

Sumerian shell money below.



Sumer was a collection of city states around the Lower Tigris and Euphrates rivers in what is now southern Iraq. Each of these cities had individual rulers. The history of Sumer tends to be divided into five periods. They are the Uruk period, which saw the dominance of the city of that same name, the Jemdat Nasr period, the Early Dynastic periods, the Agade period, and the Ur III period - the entire span lasting from

3800 BCE to around 2000 BCE. In addition, there is evidence of the Sumerians in the area both prior to the Uruk period and after the Ur III Dynastic period, but relatively little is known about the former age and the latter time period is most heavily dominated by the Babylonians. [Sumer](#)

The word 'Mesopotamia' is Greek for... between the rivers.

The places where herders, fishermen and farmers met were the first markets, where goods were traded by [barter](#). This abundance of goods for some... led to the creation of the mother of all *savings accounts*: pottery.

Once there were pots in which to store agricultural goods, **food science** was born. Because agricultural productivity is seasonal, but need is perennial, barley became beer, grapes became wine, wheat became flour and bread... milk became yogurt and cheese.

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### Clay tokens and writing



New types of tokens became a union between art and counting that eventually gave birth to writing. See: *How Writing Came About*, Denise Schmandt-Besserat. Or, for a quick introduction, [this article](#).

< : (clay tokens, not actual size)... trade tokens that have been found in Iraq, Iran and Syria. Photo: Denise Schmandt-Besserat.

It is actually possible to trace the long road of the invention of the Sumerian writing system. For 5000 years before the appearance of writing in Mesopotamia, there were small clay objects in abstract shapes... clay tokens, that were used for counting agricultural and manufactured goods.

#### **Three dimensional clay tokens** [pre-cuneiform communication](#).

Already from the 9th millennium onwards **clay tokens** were used to depict objects and abstract numbers and were widely used from present day Sudan to Iran. The clay tokens in various forms and shapes were used as counters (record keeping).

Counters represented e.g. a bull's head, a sheep, a basket, a bar of gold etc. These tokens were, in many cases at least, pictographic ... that is, they depicted concrete objects. They have meaning in any language. Further specification was made with scratches or strokes. It was the first steps towards an abstract notation.



Subsequently, the Mesopotamians stopped using clay tokens altogether, and simply impressed the symbol of the clay tokens on wet clay surfaces. Moreover, instead of repeating the same picture over and over again to represent multiple objects of the same type, they used different kinds of marks to ..count.. the number of objects, thus adding a system for enumerating objects to their incipient system of symbols. Examples of this early system of

[Cuneiform script](#) represents some of the earliest texts found in the Sumerian cities of Uruk and Jamdat Nasr, about 3000 BCE.

### Community *civil society* and technology develop

Communities developed around marketplaces and farming areas. Farming advanced from the cultivation of small plots to the tilling of extensive fields irrigated with canals using the science of [Hydrology](#) management. With the harnessing of the ox, around 3.000 BC, humans began to control and use a motive power other than that furnished by their own muscular energy.



< : Relief of early chariots on the [Standard of Ur](#)

The chariot probably originated in [Mesopotamia](#) before 3000 BC. An early depiction of vehicles (approx. 2500 BC.) is on the Standard of Ur. Commerce could move by [wagons](#) with oxen or [tamed asses](#), before the introduction of horses ca. 2000 BC.

The Sumerians developed an extensive commerce by land and sea. They built seaworthy ships, and they imported from afar items made from the wood, stone, tin and copper not found nearby.

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An important invention was the potter's wheel, first used in Sumer soon after 3500 B.C. - Earlier, people had fashioned pots by molding or coiling clay by hand, but now a symmetrical product could be produced in a much shorter time. A pivoted clay disk heavy enough to revolve of its own momentum, the potters wheel has been called one of the first [mechanical devices](#).

The **invention of the wheel** was a major turning point in the advance of human civilization. The wheel led to more efficient use of animal power for agriculture and other work: it became an invaluable mechanical means for controlling the flow and direction of power or force.

About 3100 B.C., metal workers discovered that copper was improved by the addition of tin. The resulting alloy, bronze, was harder than copper and provided a sharper cutting edge. Thus the advent of the civilization in Sumer is associated with the new technology of the [Bronze Age](#), which in time spread to Egypt, Europe and Asia. The Bronze age lasted until about 1200 B.C. when iron weapons and tools began to replace those of bronze.

One of the benefits of community living was a shared [granary](#) into which farmers contributed wheat and barley. If a farmer's crop failed in a given year, they were able to survive on a ration given from a central granary. Priests controlled most economic activities. Farmers would bring their produce to the the priests at the [Ziggurat](#) temple complex.

The Sumerians developed one of the world's first systems of **monarchy**. The states of Sumer seemed to have been ruled by a type of priest-king, among their duties... leading the military, administering trade, judging disputes, and engaging in the most important religious ceremonies. The priest-king ruled through a series of bureaucrats, many of them priests, that carefully surveyed land, assigned fields, and distributed crops after harvest. Organized religion on a large scale made its first appearance.

A class system developed controlled by rules and regulations eventually written in stone. Sumerian society adhered to a system comprised of three classes: *amelu*, *mushkinu*, and slaves. The *amelu* were at the top rung of the system. Government officials, professional soldiers, and priests were found in this class. Under the *amelu* were the *mushkinu*, the middle class of Sumerian society. The *mushkinu* were comprised of shopkeepers, farmers, merchants, and laborers. The *mushkinu* were the largest of the three classes. Slaves were considered unlucky... but were not particularly looked down on in society as even they had some *legal* rights.

Fully 75% of the records that have been preserved are economic or administrative in nature. Deeds, loans, marriages, inventories, wills, census, and tax matters form the bulk of our knowledge of Sumerian life. [Notes on Sumeria](#).

## Barter and money

City life meant a large diversity of goods and services.

Until things are related using a single commodity or set of commodities, it's impossible to provide a uniform pricing metric.

Barley was one such [medium of exchange](#) - by which to figure and compare prices that then set a metric for making purchasing choices across the board of an economy

## Creative accounting...

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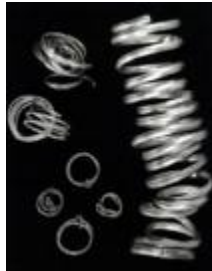
The [Shekel](#) referred to an ancient unit of weight and [currency](#). The first usage of the term came from [Mesopotamia](#) circa [3000 BC](#). and referred to a specific mass of barley which related other values in a [metric](#). The first syllable of the word, 'she' was later [Akkadian](#) for [barley](#).

The language of ancient [Sumer](#), spoken in Southern [Mesopotamia](#) since at least the [4th millennium BC](#). was gradually replaced by [Akkadian](#) as a spoken language in the beginning of the [2nd millennium BC](#), but continued to be used as a sacred, ceremonial, literary and scientific language in Mesopotamia until the first century AD. Then... it was forgotten until the [19th century](#). Sumerian is a [language isolate](#).

A barley/shekel was originally both a unit of currency and a unit of weight... just as the British Pound was originally a unit denominating a one pound mass of silver.

## The Silver Standard

### More on money and culture



In Mesopotamia, silver - a prized ornamental material that was relatively scarce - became another standard. Supplies didn't vary much from year to year, so its value remained fairly constant, which made it an ideal measuring rod for calculating the value of other things.

Mesopotamians were quick to see the advantage, recording the prices of everything from timber to barley in silver by weight in shekels.

< : silver ring and coil money.

How the citizens of Babylon or Ur actually paid their bills, however, depended on who they were. The richest tenth of the population, frequently paid in various forms of silver. Some lugged around bags or jars containing bits of the precious metal to be placed one at a time on the pan of a scale until they balanced a small carved stone weight in the other pan. Other members of the upper crust favored a more convenient form of cash: pieces of silver cast in standard weights.

The masses in Mesopotamia, however, seldom dealt in such money. It was simply too precious. To pay their bills, water carriers, estate workers, fishers, and farmers relied on more modest forms of money. Copper, tin, lead, and above all, barley. It was the *cheap* commodity money. Barley functioned in ancient Mesopotamia like small change in later systems, like the bronze currencies in the Hellenistic period.

Measurable commodity money such as silver and barley both simplified and complicated daily life. No longer did temple officials have to sweat over how to collect a one-sixth tax increase on a farmer who had paid one ox the previous year. Compound interest on loans was now a breeze to calculate. Shekels of silver, after all, lent themselves perfectly to intricate mathematical manipulation; one historian has suggested that Mesopotamian scribes first arrived at logarithms and exponential values from their calculations of compound interest.

People were constantly falling into debt though. We find reference to this in letters where people are writing to one another about someone in the household who has been seized for securing a debt. To *remedy* these disastrous financial affairs, King [Hammurabi](#) decreed in the eighteenth century B.C. that none of his subjects could be enslaved for more than three years for failing to repay a debt.

## Abstract Values...

## Beyond the Price System... Politics, Religion & Economics in the Price System



< : A Babylonian shekel coin (shown larger)... minted much later under Persian rule (c. 300BCE).

The Sumerian language used the same term for ..interest.. and ..calf..- while the early Egyptian word for ..interest.. also meant ..to give birth.

One lesson learned from the emergence of finance in ancient Mesopotamia is that financial instruments from their very inception could be tools of both enterprise and control. At their best they expanded the realm of Mesopotamian contacts and trade, bringing more choice of consumable items.

At its worst finance became a way for a group of entrepreneurs to exploit the working class mired in debt.



### Religion.. sex.. money & temple prostitutes.

Inanna the famous goddess, first of the earliest known civilization Sumer, then of Babylonia had many other names over the centuries including Great Whore of Babylon, Heavenly Prostitute, and Mother of Harlots as well as Har and Hora, from which the words harlot and whore derive.

Prostitutes called ishtaritu inhabited the temples of Ishtar, offering themselves to any worshipper who paid the required contribution. Money in the form of silver or gold would have added to the coffers of any town from this practice... thus for residents and travelers who possessed a supply of money a *supply* of sex could be had. This trade no doubt made early money popular.

In the [Epic of Gilgamesh](#) a temple prostitute *civilizes* a wild man of the forest by sleeping with him.

The Epic of Gilgamesh recounts the exploits of a heroic ruler of Uruk who lived about 2700 B.C.

One poetic theme of the epic is Gilgamesh's hope for everlasting life... which fails.

The ancient Mesopotamians seemed to believe that immortality was reserved for the gods or at least that was the poetic allusion they brought forth in their writing. Reference to an afterlife for humans was made... as a bleak place.

### Asia minor... coins



< : Pictured, a stater coin from Lydia (not actual size).

According to [Herodotus](#), and most modern scholars the Lydians were the first people to introduce the use of gold and silver [Coin](#). It is thought that these first stamped coins were minted around 650-600 BC. A stater coin was made in the [stater](#) (*trite*) denomination. To

## Beyond the Price System... Politics, Religion & Economics in the Price System

complement the stater, fractions were made: the *trite* (third), the *hekte* (sixth), and so forth in lower denominations.

The name of [Croesus](#) of Lydia became synonymous with wealth. Sardis was renowned as a beautiful city. Around 550 BC, Croesus contributed money for the construction of the [temple](#) of [Artemis](#) at [Ephesus](#), one of the [Seven Wonders of the ancient world](#). Croesus was beaten by [Cyrus II of Persia](#) in 546 BC, and the kingdom became a [satrapy](#).

### Greece

The Greek word [Seisachtheia](#) ... or - shaking off of burdens.

[Athens](#) money system was *reformed* by [Solon](#), who *shook off* some former aspects of the Athenian debt structure.

A boom in trade using standardized coins may have helped to set the scene in Athens to experiment with [democracy](#). Special interest representatives made orations of [rhetorical](#) device for *votes* on various issues, and certain speakers that influenced public opinion became famous citizens, [Pericles](#) being one of the most famous.

Democracy worked to a certain degree to empower certain special interest groups ([Delian League](#)) with wealth, status and prestige.

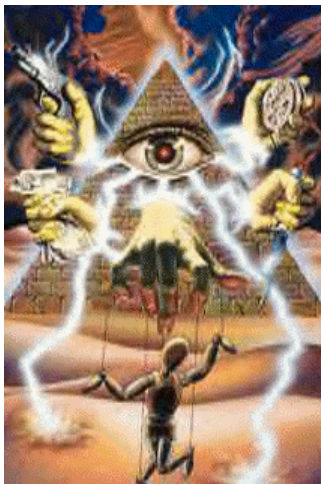
Some Athenians became *wealthy* through trade and war.

`` In the case of a word like DEMOCRACY, not only is there no agreed definition, but the attempt to make one is resisted from all sides. It is almost universally felt that when we call a country democratic we are praising it: consequently the defenders of every kind of regime claim that it is a democracy, and fear that they might have to stop using the word if it were tied down to any one meaning. Words of this kind are often used in a consciously dishonest way. That is, the person who uses them has his own private definition, but allows his hearer to think he means something quite different." -[George Orwell, Politics and the English Language](#)

## Conspiracy theory & controlling people with money

Assorted groups attempt to explain the mechanics of money and culture and relate that to *hidden* groups and plots that relate to a variety of

[conspiracy theory](#).



From the time periods discussed above and also presently... people have been rewarded in money for what could be viewed as *bad* behavior such as bribery, extortion, rackets, etc.

This has been the case from remote antiquity onwards. Raids and then wars were engaged in to capture women, horses and slaves... or oil and trade routes or religious shrines or land etc. - The fall back position in a Price System is war.

Money and *profit* have greased the wheel.

Believers in the [occult](#) offer mysterious explanations for what is usually only simple money reward and punishment and belief system opinion related events. The believers in conspiracy theory

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connect secret or hidden groups with odd agendas such as taking over or controlling the world using clandestine operations.

There is however no actual Illuminis entity that organizes society to some fantasy belief system purpose.

It is the nature of a political Price System to act in certain negative ways, as a Price Systems main dictum is to make money above all else, but many people look for more obscure reasons for problems in contemporary society.

Nonetheless... today there are multiple groups of various religion and belief systems... many of which do not particularly like each other... but tolerate each other in their quest to make money and promote various opinions. These groups make claim to some version or other of ethics or morality, religious or belief system [bigotry](#).



< : The Burney Relief, Terracotta plaque of Inanna-Ishtar or Lilith, c. 2000 BCE

The [Enûma Eliš](#) is an Old Babylonian myth account of creation and the struggle between cosmic order and chaos. It is basically a myth of the cycle of seasons and tries to explain the process of creation and humankind's role in the universe. It was recited on the fourth day of the ancient Babylonian New Year's festival. The basic story exists in various forms from Sumer.

Elements of the story stretch back into the myth history of that area. [Mesopotamian Texts Archive](#)

The *Enuma Elish* was considered a serious religious document in society. It could be viewed also as an effective propaganda tool that reinforced civil society constructs and tried to reconcile certain aspects of culture.

It was understood that people have a large capacity to believe in lies... and therefore people were fair game. In other words the money system had built in negative aspects, but also *worked* for better or worse, in that time and place. That is also true in the time and place we live in now. [Origin of the Political/Price System](#)

It is unknown for certain from where the original Sumerian people came from. The threat of floods hung over the Sumerian people always due to the nature of the place in which they lived which was prone to terrible flooding. The concept of a great flood was recorded and passed down in their legends as was the idea of a garden complete with a serpent and a tree. [Gilgamesh and the Huluppu-Tree](#).

Myths and legends combined with written attempts for meaning and control are sometimes an attempt to reconcile hard to reconcile things. Tensions between two groups, hunter gatherers and farmers, created the collision of two ways of life.

City dwelling agriculturists, the new group who insisted on taking matters into their own hands, relied upon their growing knowledge and skills rather than on the bounty or lack of bounty of nature.

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### The nature of money



All money is decreed money...fiat... whether of silver, gold, paper, barley or shells.

**The top says this is money... or else ?**

You Farmer are on the Land owned by the LORD of the land and will pay tribute to the LORD of 1 Gold coin a year...

Where do I get this GOLD coin?



You can take one short ton of grain to the granary of the LORD and there you will be given a GOLD coin for it and then you can give the gold coin to the servant of the LORD...

What if I refuse?

Then the LORD will drive you from the Land that the LORD is the LORD of...

There you go... an abundant supply... of free food to power your wildest hopes and dreams... lies and delusions...

22 And The LORD said, Behold! The man has become as one of Us, to know good and evil. And now, lest he put forth his hand and also take from the Tree of Life, and eat, and live forever,

23 The LORD sent him out of the garden of Eden to till the ground out of which he was taken.

24 And He drove the man out. And He lodged the cherubs at the east of the Garden of Eden, and the flaming sword whirling around to guard the way of the Tree of Life.

Well... what is done with all that food the tillers of the Lord's land give the LORD as Tribute?

It powers the Political Price System.

The city state... or Civilization...

[TechnateDesignSome-basicfactsTNAT- Dean D. Cameron](#)

### **The Technocracy Technate design does not use money. Energy Accounting is used instead of a Price System.**

The North American Technate TNAT which presents the information of the Technical Alliance defines Technocracy as the scientific social system outlined by the Technocracy Study Course... [Technocracy Study Course - excerpted design chapters and links to the complete copy.](#)

## Beyond the Price System... Politics, Religion & Economics in the Price System



The ancients also had some good advice for us, as in the Epic of Gilgamesh.

Thou, Gilgamesh, Let full be thy belly,  
Of each day make thou a feast of rejoicing-,  
Day and night dance thou and play!  
Let thy garments be sparkling fresh,  
Thy head be washed; bathe thou in water.  
Pay heed to the little one that holds on to thy hand,  
Let thy spouse delight in thy bosom!  
For this is the task of mankind!

[Money-History&Energy Accounting-separate essay](#)

### Political state and religion...

Although we live in an age of information, many people are inculcated or brainwashed with deceptive information, and seek out propaganda information and embrace it, because many have no reference point to any meaningful alternative accurate viable information... due to receiving a poor education. This is particularly so in regard to economic understanding and religion, the control arm of the Price System political culture.

**The Price System** is the system that was *come up with* in antiquity and is based as a plan to organize society to the benefit of what ever power possessing groups wanted to rule over various cultures of people using the method of commodity valuation with debt tokens and so called civil law.

Political systems are used to control and manipulate people into performing and furthering the wishes of the power possessors (gaining more money and promoting belief system ideas).

A Political Price System is a tool to make others jump through imaginary belief system hoops and in the process maintain the class/caste system of so called civil contract society. Democracy systems are a type of civil society contract where the opinions and beliefs of others are used as a form of idea slavery that prohibits any type of functional or science based governance. That type of system precludes a science based system because belief and opinions are never fact. The Technate design for North America is based on science not opinions or beliefs. The Technate design protects the people from this antique form of control. It is secular and humanitarian by default as it throws out the concepts of civil contract society and does not use belief system contracts as practiced by a Price System.

'Political system' invented money and certain *beliefs* as the carrot and stick reward and punishment for control.

## **Beyond the Price System... Politics, Religion & Economics in the Price System**

The basis of the Price system, whether from Babylon whereas one codified version originated or from Adam Smith the 18th.cent. economist, is based on scarcity economics and human 'work' in a reward and punishment method. A labor theory of value, or a *what are people willing to trade for some economic advantage* (money profit or so called value in purchasing).

Technology and mechanical energy has replaced most human labor as the means of doing *work*.

The template of our society therefore can change as the current operating system no longer makes sense and because money measures nothing real, the current Price System method destroys the resource base and hence the very thing that has real value, the thing we need for our survival.

Our Political Price System is an elaborate dance of debt done in order to *trick* people into becoming maintainers of society for an elite. The so called elite are mostly ignorant themselves of this dynamic and are mostly also victims of the Price System.

This means that many people are *soldiering* for ideas that they have gotten by a wrong education given by special interest groups of one kind or another. [Technate Design Basic](#)

While it is perfectly fine to believe anything, that value should not translate to a government. If it does it is not functional governance. The Technate design precludes special interest control.

When two conflicting belief systems clash, people die, they die over abstract concepts. That keeps the power possessors in business though with special interest groups reaping rewards of debt tokens. [Money As Debt](#)

## **The origin of many western religious concepts... the [Enûma Eliš](#)**

In a creation epic written in the early second millennium B.C. mankind is created this way; "Blood I will mass and cause bones to be. I will establish a savage; "man" shall be his name. Verily, savage man I will create. He shall be charged with the service of the Gods that they might be at ease! The ways of the Gods I will artfully alter. Though alike revered, into two (groups) they shall be divided."

Mankind was created in this myth from the blood of a rebel god that the other gods killed to free themselves.  
Then this story proceeds...

After Ea had created mankind and imposed upon it the service of the Gods; these newly created humans said this, "now, O Lord, Thou who hast caused our deliverance, what shall be our homage to thee?

Let us build a shrine whose name shall be called 'Lo, a chamber for our nightly rest'; Let us repose in it! Let us build a throne, a recess for his abode! "Like that of lofty Babylon, whose buildings you have requested they set up in it an abode for Marduk, Enlil and Ea.

## Beyond the Price System... Politics, Religion & Economics in the Price System

These Gods said, "Let our sovereignty be surpassing;  
having no rival.

May we shepherd the black-headed ones, our  
creatures, to the end of days, without forgetting, let them acclaim  
our ways.

We order the black-headed to revere us. May the subjects  
ever bear in mind their God, and may they at His word pay heed to  
the Goddess; may food offerings be borne for their Gods and  
Goddesses. Without fail let them support their Gods! Their lands let  
them improve, build their shrines. Let the black-headed wait on  
their Gods."

This is the origin of what passes for the most  
part of western religious tradition, those traditions originating in Sumeria.

Earlier in the myth is the phrase; "O Lord, spare the life of him who  
trusts thee, but pour out the life of the God who seized evil." End. Excerpt from the [Enûma Eliš](#)

This tale from the Old Babylonian period was the most  
significant expression of religious literature of Mesopotamia...

The above is the origin of our so called conventional approach of political and belief system  
control that we use now to administer society.

This method of trickery and control is the stock and trade of the Political Price system  
method, and has been from the beginning of organized city state culture. It has been  
applied ruthlessly for a long time.

Originally it was meant as an inside joke among the people that invented it and was to be  
used merely as a method to control people.

Although based on deception... society with its relating law codes and debt forgiveness  
periods, arguably had some benign aspects also... as, although human labor was the only  
way to achieve economic gain, or controlling the human labor of others, there were some  
safe guards built into the law codes for ordinary people also... although brainwashing and  
deception were still used in governance.

Human gullibility and suggestibility have made that happen because people realized in the  
beginning of culture, that humans are easily tricked with lies... that are cleverly presented  
as facts. This aspect of human psychology being easily manipulated, affords power  
possessor's who control media... whether so called *sacred texts*... or corporate television,  
the purpose of maintaining Price System political/religious control.

In a time of scarcity it was thought people needed to be controlled into work gangs and also  
uphold the *belief system values* of their respective society. That means being ready to kill or  
sacrifice their lives, for said abstract concepts, should the need arise in the minds of what  
ever the power possessors demanded.

## Beyond the Price System... Politics, Religion & Economics in the Price System



Just as the leaders of ancient Mesopotamia cleverly tricked their followers to obey them as god's representatives on earth, our current leaders employ the same methods. The creation of the belief system concepts of good and evil was and is the instrument of choice then as now to shame and control and maintain the Political Price System through special interest control.

So yes, the Price System is the god that says 'every thing for me and nothing for you'.

It is a primitive, antique, and barbaric god.

It has no conscience in the sense that it will destroy the natural world in a desire to maintain its power and control,

and as a system it ensures the destruction of the earth for desultory reasons (pursuit of debt tokens).

**The Technate Design for North America is the alternative**, and it is the only viable alternative that does away with the Price System and precludes special interest control.

The Global Price System continues to destroy our resource base using the ideology of the Political Price System. Creative alternatives are available instead of the current method.

[Howard Scott - History and Purpose of Technocracy](#)

### Definition of Technocracy Technate:

The root of the word Technocracy and its meaning come from the word technique.

The root of this word is the Greek, techne ('art', 'craft', or 'skill'), which linguists have further traced to the Indo-European root, teks - (to weave, or fabricate ).

From the earliest times, technique has been distinguished from other modes of human action by its purposive, rational, step-by-step way of doing things.

In the case of the Technate design, this means administration by science or fact, within the context of the program developed by the Technical Alliance. This social synthesis is based on the concept of science applied to society.

It is not a political system.

How positions are filled in the Technocracy Technate design.

## **Beyond the Price System... Politics, Religion & Economics in the Price System**

- Positions are filled based on the proven method of nomination from below and appointment from above. For example, if a position were vacated for whatever reason, then the people immediately below that position would nominate candidates from among their ranks for the position.

Then, the managers from the rank above the position would choose from those candidates the person most qualified for the job.

This is the method that is most often used in the technical portions of present organizations, and is based on competence.

- Competence of the person is determined by the consistent operation of the technology involved.

If such machinery should fail to operate within acceptable parameters, then the person responsible would be quickly removed and replaced with someone who could perform the job adequately.

The only exception to this is the position of Continental Director, only because there is no one higher.

This position is selected from the members of the Continental Board of Directors by the Continental Board of Directors, for it is they who best know who among them is most capable of handling the job.

**The Technocracy Study Course : *The last two chapters outline the design.***

### **What are some conclusion of this program?**

Here are three basic conclusions.

The first is that there exists on the North American Continent a physical potential in resources to produce a high standard of goods and services for all citizens and that the high-speed technology for converting these resources to use-forms in sufficient volume is already installed and that the skilled personnel for operating it are present and available.

Yet we have unprecedented insecurity, extensive poverty and rampant crime.

A second conclusion of Technocracy is that the Price System can no longer function adequately as a method of production and distribution of goods.

The invention of power machinery has made it possible to produce a plethora of goods with a relatively small amount of human labor.

As machines displace men and women however, purchasing power is destroyed, for if people cannot work for wages and salaries, they cannot buy goods.

We find ourselves then in this paradoxical situation: the more we produce, the less we are able to consume.

Another basic conclusion is that a new distributive system must be instituted that is designed to satisfy the special needs of an environment of technological adequacy and that this system must not in any way be associated with the extent of an individuals functional contribution to society.

Why ?

Because if it is, it is another form of Price System, the system that we have now,

## Beyond the Price System... Politics, Religion & Economics in the Price System

and would thus result in a society based on coercion and not creative thought and achievement.

### Price System analysis, as it relates to propaganda, political/religious/consumer control.

Here is a source for a Freud piece. [Sigmund Freud - Textpieces](#)  
*Civilization and its Discontent*.

"It regards reality as the sole enemy and as the source of all suffering, with which it is impossible to live, so that one must break off all relations with it if one is to be in any way happy. The hermit turns his back on the world and will have no truck with it. But one can do more than that; one can try to re-create the world, to build up in its stead another world in which its most unbearable features are eliminated and replaced by others that are in conformity with one's own wishes. But whoever, in desperate defiance, sets out upon this path to happiness will as a rule attain nothing. Reality is too strong for him. He becomes a madman, who for the most part finds no one to help him in carrying through his delusion. It is asserted, however, that each one of us behaves in some respect like a paranoiac, corrects some aspect of the world which is unbearable to him by the construction of a wish and introduces this delusion into reality. A special importance attaches to the case in which this attempt to procure a certainty of happiness and a protection against suffering through a delusional remolding of reality is made by a considerable number of people in common. The religions of mankind must be classed among the mass-delusions of this kind. No one, needless to say, who shares a delusion ever recognizes it as such".

(Standard Edition, XXI, p. 81)

Those words are from one of his last books, 'Civilization and its discontent.'

This was written around the time that so called 'democracy' (special interest groups) and capitalism, were linked by propaganda (public relations) in the mind of North Americans, and people throughout the world.

This, and material below taken together, offer proof positive that America was 'taken over' by globalism/corporate interests between 1938 and 1948, using a number of techniques of manipulation and deception many of which harken back to ancient Sumer and the original methods of social control developed by the Mesopotamian city states through the invention of religion and political/economic control using, for the first time written contract laws that an entire population were enforced to conform to... this formed the basis of our current religious and economic systems.

Freud's relative, Edward Bernays, the modern inventor of public relations theory in the 20th. cent... which he originally referred to as *propaganda*, but changed that term, due to its baggage... to the term *public relations*, came up with many of the ideas of the present western consumer societies as to how to influence people, with information from other, more ancient sources, for the brainwashing exercise of advertising manipulation, and theory, used by corporate fascistic groups, as well as information gleaned from the dark mirror his relative Sigmund Freud provided.

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As with many things that originated *somewhere*, a finger can be pointed directly at Edward Bernays, for 'creating' much of the modern methodology of effective ways to manipulate people, that shaped and transmitted what Americans and others were later deceived with.

These ideas however, hearken back to the advent of 'civil' society, and religion as its surrogate/enforcer of control. (Ancient Sumer to 18th. cent. BC.)

**Technocracy** Technate design is the ONLY construct that will get rid of this mode of control entirely, thus freeing humans from thousands of years of manipulation by special interests of belief, business, class systems, politics and money.

This, [The Century of The Self: The Engineering of Consent Part 1](#) and this [Technocracy Study Course - excerpted design chapters and links to the complete copy](#), may provide information for perspective on our political price system and the way it functions and the source from which it came to exist.

## Chapter 3. Technocracy Incorporated... Technocracy movement

**Technocracy Technate design** is a form of government in which scientists and technical experts are in administrative or decision making control: "technocracy is described as that society in which those who govern justify themselves by appeal to technical experts who justify themselves by appeal to scientific forms of knowledge". The term came to mean government by technical decision making in 1932.<sup>[1]</sup>

As formulated in the *Technocracy Study Course*, the precedent document, it is a non political governmental form.

There are a variety of Technocratic groups and organizations in a number of countries with a number of scientists, writers and others connected to ideas of [thermoconomics](#), [bioeconomics](#) and [non-market economics](#) currently, many of these people hearken back as to ideas, the information first published by Technocracy Incorporated as to some of the basic information and thinking about the concepts of energy economics and society.

Technocracy Incorporated brought forth ideas developed into the concept of an [Energy Accounting](#) based system, as opposed to a [price system](#) and the idea of a scientific social design based on [thermodynamics](#).

[Technocracy Incorporated](#) became a popular social movement during the 1930's and is still active today. This group calls itself an educational and research organization and continues to advocate a [technate](#) design for [North America](#)

## Discovery of thermodynamics as the precursor to Technocratic ideas

In the early 19th century, the physical and ecological basis of economic production intuitively grasped by the [Physiocrats](#) was formalized by the discovery of the [laws of thermodynamics](#). Soon after [Carnot](#), [Clausius](#) and others formalized the laws of thermodynamics, many physical and [life scientists](#) realized that those laws had enormous implications for their respective disciplines.

Thermodynamics and the study of [energy flow](#) became a universal index by which many disparate biological and physical processes were quantified and compared. Carnot's steam

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engine experiments demonstrated the relevance of the [second law of thermodynamics](#) of economics, namely, how much useful work could be obtained from an [energy conversion](#). Carnot's experiments also showed that thermodynamic laws are essentially economic formulations of physical relations, for the terms 'useful' and 'unavailable' energy refer to the economy's ability to use energy to upgrade the organizational state of natural resources into useful goods and services.

Physical scientists and biologists were the first individuals to use energy flows to explain social and economic development. [Joseph Henry](#), an American physicist and first secretary of the Smithsonian Institution, remarked that the "fundamental principle of political economy is that the physical labor of man can only be ameliorated by ...the transformation of matter from a crude state to a artificial condition...by expending what is called power or energy."

The biologist-philosopher [Herbert Spencer](#) observed that human systems have the unique ability to temporarily halt and even reverse the spontaneous increase of [entropy](#) by tapping energy flows in nature. Spencer likened the evolutionary process, both biological and social, to the entropy law because the struggle for existence was a struggle for available energy and resources. Spencer stated that "evolution is a change from a less coherent form to a more coherent form, consequent on the dissipation of energy and the integration of matter." The German chemist [Wilhelm Ostwald](#) incorporated thermodynamics into a general theory of economic development. Ostwald stated that energy was the *sole universal generalization* because energy possesses the principle of conservation under all circumstances. For this reason, and also because for any event in the universe it is always possible to state an equation every time between the "energies that have disappeared and those newly arrived," Ostwald believed that energy laws should be the "foundation of all sciences." Based on this principle, Ostwald sketched the beginnings of civilization in energy terms. If culture is a means by which humans control their natural environment, and if all events are at root energy conversions, then civilization becomes a history of ever-increasing control of energy for human purposes. Civilization advanced as new and better ways were devised to empower human labor with inanimate energies. Ostwald stated that "...the progress of science is characterized by the fact that more and more energy is utilized for human purposes, and that the transformation of the raw energies...is attended by ever-increased efficiency."

Sergei Podolinsky, a Ukrainian socialist, was one of the first to explicitly scrutinize the economic process from a thermodynamic perspective. Podolinsky was keenly aware that he was in line of succession to the Physiocrats and Carnot and Clausius, citing the former group's emphasis on nature as the source of wealth, and the economic implications of the latter pair's discoveries. Podolinsky tried to reconcile the labor theory of value with a thermodynamic analysis of the economic process. In his conclusions, which he communicated to Frederick Engels on several occasions, Podolinsky stated the socialist model was flawed because it assumed that [scientific socialism](#) would overcome all natural resource scarcities and enable unlimited material expansion. Podolinsky's [biophysical](#) analysis led him to conclude that ultimate limits to economic growth lay not in the shackles of the relations of production, but in physical and ecological laws.<sup>[3]</sup>

Podolinsky's work foreshadowed by nearly a century three concepts now widely used by some biophysical analysts: the use of energy flow analysis to characterize the efficiency of food production systems; modeling labor productivity as a function of the quantity of energy used to subsidize the efforts of labor; and the importance of the energy surplus or net energy yielded by an energy supply process.

Podolinsky calculated the energy surplus delivered by the food production system of his day by comparing the caloric value of food produced to the energy used to produce it, including the energy content of the seeds and the caloric expenditure of human and draft animals used in the process. Podolinsky calculated that yields per area and energy surpluses were greater in [ecosystems](#) that were subsidized by human-controlled energy inputs relative to unsubsidized natural ecosystems.<sup>[4]</sup>

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[Georgescu-Roegen](#) more recently discussed [economics](#), and the concept of [entropy](#) from [thermodynamics](#) (as distinguished from the mechanistic foundation of neoclassical economics drawn from Newtonian physics) and did foundational work which later developed into [evolutionary economics](#). Many aspects of his work confirmed that a different economic approach, connected with energy and environment might better serve the protection of the resource base. His work contributed significantly to [bioeconomics](#) and to [ecological economics](#).<sup>[5][6][7][8][9]</sup>

## History

According to historian William E. Akin and other historians such as Donald R. Stabile, technocratic ideas have their origins in the progressive engineers of the early twentieth century, along with some of the later works of [Thorstein Veblen](#), a member of the [Technical Alliance](#), such as "Engineers And The Price System" written in 1921.<sup>[10]</sup> [Frederick Soddy](#) winner of the Nobel Prize for chemistry in 1921, was also interested in technocratic ideas, which is evidenced by his publication *Wealth, Virtual Wealth and Debt* (George Allen & Unwin 1926), which is used as a reference in the *Technocracy Study Course*. Soddy himself, in a newsreel interview taken in his office and laboratory, presented in the early 30's a very nice admission and commendation for the development of Technocratic ideas in the United States.<sup>[11]</sup> In *Wealth, Virtual Wealth and Debt*, Soddy turned his attention to the role of energy in economic systems. He criticized the focus on monetary flows in [economics](#), arguing that "real" wealth was derived from the use of energy to transform materials into physical goods and services. Soddy's economic writings were largely ignored in his time, but would later be applied to the development of [biophysical economics](#) and [ecological economics](#) in the late 20th century.<sup>[12]</sup> [Scientific management](#)<sup>[13]</sup> was also a popular concept at this time. Howard Scott stated (History and Purpose of Technocracy.. in external links below) that technocracy was not related to the concepts of Scientific management, as Technocrats were not concerned with making [Human toil](#) more efficient, but instead wished to eliminate it in favor of [Automation](#). [Josiah Willard Gibbs](#), a mathematician, engineer and chemist, was described by Howard Scott as the "intellectual forefather of technocracy" for his work on energy determinants. Howard Scott noted that the science behind the ideas of the Technocracy Technate design are based on the work of Willard Gibbs.<sup>[11][14]</sup> In 1901, Gibbs was awarded the highest possible honor granted by the international scientific community of his day, granted to only one scientist each year: the [Copley Medal](#) of the [Royal Society of London](#), for being "the first to apply the [second law of thermodynamics](#) to the exhaustive discussion of the relation between chemical, electrical, and thermal energy and capacity for external work."<sup>[15]</sup> This quotation summarizes Gibbs's greatest scientific contribution.



< : **Howard Scott**

A variety of groups formed after the [First World War](#) concerned with engineering and social theory. These included [Henry Gantt](#)'s "The New Machine" and Thorstein Veblen's "Soviet of Technicians". These organisations folded after a short time. The "Soviet of Technicians" resulted in a series of lectures which [Howard Scott](#) attended;<sup>[13]</sup> Scott started the [Technical Alliance](#) in the winter of

1918-1919. Its members were mostly [scientists](#) and [engineers](#), and later included Veblen. The Alliance started an [Energy Survey of North America](#), which would give a scientific background from which they developed ideas about a new [social structure](#). However the Alliance broke up in the 1920s<sup>[16]</sup>.

William Howard Smyth used the word "technocracy" to describe a government made up of scientists and engineers in the U.S. in 1919.<sup>[17]</sup> The view that technical concerns should

## Beyond the Price System... Politics, Religion & Economics in the Price System

take precedence developed among engineers such as Smyth based on the early conception of [Industrial democracy](#) which was limited merely to the technical government of [firms](#). This school of thought amongst engineers eventually produced social institutions arguing for purely technical government of society in the 1930s. Some technocratic ideas and concepts are used in the later works of Thorstein Veblen.<sup>[18]</sup>

The new group sought to implement the findings of the Technical Alliance and create a new kind of society based on [Energy Accounting](#)<sup>[21]</sup> instead of a monetary system (the technocracy technate design). The group was incorporated in the state of [New York](#) in 1933 as a [non-profit](#), non-political, non-[sectarian](#) organization. Led by Scott, then director-in-chief or "Chief Engineer", the organization promoted its goals of educating people about the Alliance's ideas via a North American [lecture](#) tour in 1934, gaining support throughout the [depression](#) years. The precedent document of the Technocracy movement is the **Technocracy Study Course**.

Today, Technocracy Incorporated members partake in discussion groups, publish quarterly magazines, and advocate for the original concepts of a [Thermoeconomics](#) based scientific social design. They also publish a monthly newsletter called *Trend Events*.<sup>[21]</sup>

## Technocracy & engineering

Technocracy was one solution to a problem faced by [engineers](#) in the early [twentieth century](#). Following Samuel Haber<sup>[22]</sup> Donald Stabile argues that engineers were faced with a conflict between physical efficiency and [cost efficiency](#) in the new corporate capitalist enterprises of the late nineteenth century [United States](#).

Profit-conscious, nontechnical managers of the firm where the engineers work, because of their perceptions of market demand, often impose limits on the projects the engineer desires to undertake; workers do not perform according to the specifications of the engineer's plans; and the prices of all inputs vary with market forces thereby upsetting the engineer's careful calculations. As a result, the engineer loses control over his own little world and must continually revise his plans. To keep his little world secure, the engineer is forced to extend his control over these outside variables and transform them into constant factors.<sup>[10]</sup>

Engineers heatedly discussed these issues in US engineering journals and proceedings. Three ideological outcomes were produced. Firstly, [Taylorism](#) which integrates price structures into engineering concerns, thus producing [scientific management](#) where the [capitalist](#) manager and engineer divide control over the production process and [working class](#) between themselves. Secondly, building on Taylorism the [Soviet Union](#) implemented socialist-Taylorism where economic planning, a [political bureaucracy](#) and a technical elite divided control over the economy through institutions like the [GOELRO plan](#) or [five year plans](#). While political concerns influenced Soviet planning, and [engineers were politically persecuted](#); the political bureaucracy designed plans so as to achieve technical outcomes, and used production price accounting as a technical, rather than economic measure. In the United States a view that technical concerns should take precedence developed among engineers such as William Howard Smyth based on the early conception of [Industrial democracy](#) which was limited to the technical government of firms. This school of thought amongst engineers eventually produced social institutions arguing for purely technical government of society in the 1930s. Those concepts were taken to another alternative economic level with the proposal of the use of a system called [Energy Accounting](#)<sup>[23]</sup>, that system being not based on a money debt system.<sup>[24]</sup> [Technocracy Incorporated](#) proposed and proposes, the non monetary system (energy accounting) which uses a [post scarcity](#) type of economy as its basis.<sup>[20]</sup> The Technate design as projected, would include such post scarcity aspects as free housing ([Urbanates](#)),

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transportation, recreation, and education. In other words, free everything, including all consumer products, as a right of citizenship.<sup>[25]</sup> Everyone would receive an equal amount of consuming power via this [Non-market economics](#), post scarcity method, in theory.

### Views of the Price System

The term "[price system](#)" is an economic term used by Technocracy Incorporated and others, to describe any [economic](#) system whatsoever that effects its distribution of goods and services by means of a system of trade or commerce based on [commodity valuation](#) and employing any form of [debt](#) tokens, or [money](#) and which attempts to balance [supply and demand](#) of resources. Except for possible remote and primitive communities, all modern societies use price systems to allocate resources. TechInc advocates a non price system method.<sup>[26]</sup>

Technocracy, which came to mean government by technical decision making in 1932,<sup>[1]</sup> is one possible solution to a problem faced by [engineers](#) in the early [twentieth century](#). Following Samuel Haber<sup>[21]</sup> Donald Stabile argues that engineers were faced with a conflict between physical efficiency and [cost efficiency](#) in the new corporate capitalist enterprises of the late nineteenth century [United States](#).<sup>[27]</sup> Fundamentally, price systems have been around for as long as there has been an intermediary device used in [trade](#), such as [money](#). From its beginnings as an extension of the barter system, the price system has evolved into the system of global [capitalism](#) that is present in the early 21st century.<sup>[24]</sup> The [Soviet Union](#) and other [Communist](#) nations were price systems also, as they employed a scarcity based monetary system. [Thorstein Veblen](#), who was a member of the [Technical Alliance](#) (the precursor to Technocracy Incorporated), wrote *The Engineers and the Price System* in 1921, in which he put forth some of his views on the Price System.<sup>18</sup> That book was later used as a reference in the Technocracy Study Course.

Technocracy Incorporated proposed and purposes, a non monetary system of [Energy Accounting](#)<sup>[23]</sup> which uses a [post scarcity](#) type of economy as its basis.<sup>[20]</sup> The Technate design as projected, would include such post scarcity aspects as free housing ([urbanates](#)), transportation, recreation, and education. In other words, free everything, including all consumer products, as a right of citizenship.<sup>[25]</sup>

Howard Scott noted that the science behind the ideas of the Technocracy Technate design are based on the work of Willard Gibbs.<sup>[11] [14]</sup>

### Criticism

It was the 'drastic influence' that *energy quality* and *availability* had on economic development that led [M. King Hubbert](#) and [Frederick Soddy](#) among others to criticize standard economics or the [price system](#), for its lack of a biophysical basis. Echoing the words of Frederick Soddy written almost a half-century earlier, Hubbert stated:

"...when one speaks of the state of growth of GNP, I haven't the faintest idea what this means when I try to translate it onto coal, oil, iron, and the other physical quantities which are required to run an industry...the quantity GNP is a monetary bookkeeping entity. It obeys the laws of money. It can be expanded or diminished, created or destroyed, but it does not obey the laws of physics."

[Thermoeconomics](#) research dealing with biophysical economics questions the ability of money to come to terms with the operation of our current high energy civilization.<sup>26</sup>

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[Environment portal](#)



[Ecology portal](#)



[Earth sciences portal](#)



[Science portal](#)

- [Technocracy \(bureaucratic\)](#)
- [M. King Hubbert](#)
- [Technical Alliance](#)
- [Technocracy Incorporated](#)
- [Willard Gibbs](#)
- [Howard Scott](#)
- [Monad \(Technocracy\)](#)
- [Post scarcity](#)
- [Planned economy](#)
- [Thorstein Veblen](#)
- [Urbanates](#)
- [Frederick Soddy](#)
- [Energy Balance](#)
- [Econophysics](#)

### References chapter 3.

1. Oxford English Dictionary 3rd edition (Word from 2nd edition 1989)
2. <http://ecen.com/eee9/ecoterme.htm> Economy and Thermodynamics
3. [Article Topic: ecological economics - Encyclopedia of Earth](#)
4. [http://www.eoearth.org/article/Biophysical\\_economics](http://www.eoearth.org/article/Biophysical_economics) Biophysical economics - Encyclopedia of Earth
5. Cleveland, C. and Ruth, M. 1997. When, where, and by how much do biophysical limits constrain the economic process? A survey of Georgescu-Roegen's contribution to ecological economics. *Ecological Economics* 22: 203-223.
6. Daly, H. 1995. On Nicholas Georgescu-Roegen's contributions to economics: An obituary essay. *Ecological Economics* 13: 149-54.
7. Mayumi, K. 1995. Nicholas Georgescu-Roegen (1906-1994): an admirable epistemologist. *Structural Change and Economic Dynamics* 6: 115-120.
8. Mayumi, K. and Gowdy, J. M. (eds.) 1999. *Bioeconomics and Sustainability: Essays in Honor of Nicholas Georgescu-Roegen*. Cheltenham: Edward Elgar.
9. Mayumi, K. 2001. *The Origins of Ecological Economics: The Bioeconomics of Georgescu-Roegen*. London: Routledge.
10. Stabile, Donald R. "Veblen and the Political Economy of the Engineer: the radical thinker and engineering leaders came to technocratic ideas at the same time," *American Journal of Economics and Sociology* (45:1) 1986, 43-44.
11. [History and Purpose of Technocracy by Howard Scott](#)
12. [http://www.eoearth.org/article/Soddy,\\_Frederick](http://www.eoearth.org/article/Soddy,_Frederick) Soddy, Frederick - Encyclopedia of Earth
13. [The Origins of Technocracy. From the Technocracy Movement website - Scott's statement is on the video](#)

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14. [Josiah Willard Gibbs](#) - Britannica 1911
15. "Questioning of M. King Hubbert, Division of Supply and Resources, before the Board of Economic Warfare" (PDF) (1943-04-14). Retrieved on 2008-05-04.p8-9 (p18-9 of PDF)
16. [Raymond, Allen](#) (1933). *What is Technocracy?*.
17. [The Engineers and the Price System, 1921.](#)
18. Hubbert investigation (1943), p41 (p50 of PDF)
19. The Energy Certificate essay by Fezer. An article on energy accounting as proposed by Technocracy Inc. <http://www.technocracy.org/Archives/The%20Energy%20Certificate-r.htm> Article on alternative system to money 'energy accounting'
20. [http://www.technocracy.org/Trendevents/June\\_2008\\_TRENDEVENTS%5B1%5D%5B2%5D%5B2%5D.pdf](http://www.technocracy.org/Trendevents/June_2008_TRENDEVENTS%5B1%5D%5B2%5D%5B2%5D.pdf)
21. Haber, Samuel. *Efficiency and Uplift* Chicago: University of Chicago Press, 1964.
22. <http://telstar.ote.cmu.edu/environ/m3/s3/05account.shtml> Environmental Decision making, Science and Technology
23. R. B. Langan, ["I Am The Price System"](#), *Great Lakes Technocrat*, No. 66 (March/April 1944).
24. Ivie, Wilton *A Place to Live: 1955 Technocracy Digest*
25. Cutler J. Cleveland, ["Biophysical economics"](#), *Encyclopedia of Earth*, Last updated: September 14, 2006.
26. "Profit-conscious, nontechnical managers of the firm where the engineers work, because of their perceptions of market demand, often impose limits on the projects the engineer desires to undertake; workers do not perform according to the specifications of the engineer's plans; and the prices of all inputs vary with market forces thereby upsetting the engineer's careful calculations. As a result, the engineer loses control over his own little world and must continually revise his plans. To keep his little world secure, the engineer is forced to extend his control over these outside variables and transform them into constant factors." Stabile, Donald R. "Veblen and the Political Economy of the Engineer: the radical thinker and engineering leaders came to technocratic ideas at the same time," *American Journal of Economics and Sociology* (45:1) 1986, 43-44.
27. [Charlie's Diary: Let's put the future behind us](#)

### More external links

- [Technocracy Incorporated](#)
- [Historical Background and Development of Social Security](#) from the U.S. [Social Security Administration](#) (see section *Technocracy*)
- [History and Purpose of Technocracy, Howard Scott](#)
- [The Technocrats 1919-1967: A Case Study Of Conflict In A Social Movement, David Adair](#)
- [The Energy Certificate](#)
- [A Place To Live In. Wilton Ivie Technocracy Digest Nov.1955](#)
- [Economy and Thermodynamics: Borisas Cimbliris \(1998\)](#)
- [Article Topic: ecological economics - Encyclopedia of Earth](#)
- [M. King Hubbert on the Nature of Growth. 1974](#)

## Chapter 4. Energy accounting

## **Beyond the Price System... Politics, Religion & Economics in the Price System**

### **Some reasons why the current system will not work in the future**

#### **Obsolete system**

The Price System grew out of the days of scarcity, when trading crude materials or stealing them, was the only way in which humans could acquire articles desired. [I am the Price System ! essay R. B. Langdon](#)

Through complex ramifications the trading system has grown until it is now the overwhelming structure of finance, business commerce, and politics, in short, the Price System is a gigantic structure, but still just a method of exchanging goods, springing from the ancient custom and necessity of barter. No intention or pretense is made of accurate measurement or control; no physical accounting is involved; no accurate predictions can be made; and no stabilization can be assured. The Price System is simply a method of erratic exchange. In scarcity it sufficed well enough as an exchange method; in abundance it cannot even do that. [The American Political Price System TNAT info. The North American](#)

The dislocation of the commodity exchange method of distributing goods and services became apparent after World War 1. The disrupted conditions at that time led to a scientific investigation which in turn proved that the only common denominator of all goods and services was energy.

The scientists who pointed this out simply proposed to measure the total amount of energy used by the North American Continent in a given period : measure the energy cost of physical production and services: and use these measurements as the basis for regulation of all Continental production and distribution. [Energy Accounting-Fezer-TNAT-TheNorthAmericanTechnate](#)

#### **Technate design is the tool**

The Technate design basic postulate is, 'The phenomena involved in the functional operation of a social mechanism are metrical.' In other words, anything that materially affects us or changes our environment is measurable. The scientists and technologists know this and have applied it directly to the task of equipping North America with the most intricate and efficient productive mechanism ever to exist on earth. When they are given their chance they will see that the abundant goods and services produced are adequately distributed to everyone on the Continent. The Technate design is the tool by which North Americans may gain abundance and security.

This program would put into operation a Continental control of all flow lines of production and distribution a Continental statistical system which would record the desires of every citizen in their choice of consumable goods and available services. This system would do the following things in a physical area where abundance is certain:

1. Register on a continuous 24-hour-per day basis the total net conversion of energy, which would determine (a) the availability of energy for Continental plant construction and maintenance, (b) the amount of physical wealth available in the form of consumable goods and services for consumption by the total population during the balance-load period.
2. By means of the registration of energy converted and consumed, make possible a balanced load.
3. Provide a continuous inventory of all production and consumption.

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4. Provide a specific registration of the type, kind, etc., of all goods and services, where produced, and where used.
5. Allow the citizen the widest latitude of choice in consuming their individual share of Continental physical wealth.
6. Distribute goods and services abundantly to every member of the population.

### **Why Not Money?**

On the basis of these requirements, it is interesting to consider money as a possible medium of distribution. But before doing this, let us bear in mind what the properties of money are. In the first place, money relationships are all based upon "value," which in turn is a function of scarcity. Hence money is not a measure of anything. Secondly, money is a debt claim against society and is valid in the hands of any bearer. In other words, it is negotiable : it can be traded, stolen, given or gambled away. Thirdly, money can be saved. Fourthly, money circulates, and is not destroyed or canceled out upon being spent. On each of these counts money fails to meet our requirements as our medium of distribution.

### **Money Is Inadequate**

Suppose, for instance, that we attempted to distribute by means of money the goods and services produced. Suppose that it were decided that 200 billion dollars' worth of goods and services were to be produced in a given year, and suppose further that 200 billion dollars were distributed to the population during that time with which to purchase these goods and services. Immediately the foregoing properties of money would create trouble.

Due to the fact that money is not a physical measure of goods and services, there is no assurance that prices would not change during the year, and that 200 billion dollars issued for use in a given year would be used in that year. If it were not used this would immediately begin to curtail production and start oscillations. Due to the fact that money is negotiable, and that certain human beings, by hook or crook, have a facility for getting it away from other human beings, this would defeat the requirement that distribution must reach all human beings. A further consequence of the negotiability of money is that it can be used very effectively for purposes of bribery. Hence the most successful accumulators of money would be able eventually not only to disrupt the flow line, but also to buy a controlling interest in the social mechanism itself, which brings us right back to where we started from.

Due to the fact that money is a species of debt, and hence cumulative, the amount would have to be continuously increased, which, in conjunction with its property of being negotiable, would lead inevitably to concentration of control in a few hands, and to general disruption of the distribution system which was supposed to be maintained.

Thus, money in any form whatsoever is completely inadequate as a medium of distribution in an economy of abundance. Any social system employing commodity evaluation (commodity valuations are the basis of all money) is a Price System. Hence it is not possible to maintain an economy of abundance by means of a Price System.

On all counts, money does not meet the requirements of a medium of distribution of abundance.

The mechanism that does meet the requirements is the energy degraded in the production of goods and services. This energy conversion constitutes the physical cost of production and can be stated in units of work (ergs or kilowatts) or in units of heat (kg calories or Btu's).

## **Beyond the Price System... Politics, Religion & Economics in the Price System**

We can therefore measure quite accurately the energy converted in any given industrial process, as well as the total physical energy cost of operating the Continent, (a further explanation of this in the last two chapters of the the design of the Technate of and for North America is presented there). [Technocracy Study Course - excerpted design chapters and links to the complete copy.](#)

After subtracting the energy required to operate the Continent as a whole – new plant and maintenance thereof, roads, housing, hospitals, schools, local transport, continental transport, communications, education, child care, and maintenance of public institutions – continental hydrology, the remainder would be shared equally by all adult citizens in the form of energy certificates or units.

In the U.S. alone, in 1992, more than 81 quadrillion Btu`s were consumed, with 62 quadrillion being used for overall operating, leaving 19 quadrillion to be consumed by the personal needs of the population. That would supply every North American with their favorite personal items, all else such as housing, healthcare, food, clothing, all transportation, education, in other words, all things required to maintain the highest standard of living possible within the resource base, as a right of citizenship.

Keep in mind: to be *physically* consumed. Since there is a definite limit to the amount of goods and services one individual can consume, it is both reasonable and efficient to issue equal numbers of energy units to each adult. The number will be greater than anyone can physically consume. Since everyone would have their own plentiful supply, there would be no point in transferring certificates to any other person – or taking someone else's !

### **The scientific answer**

The Technate Energy Accounting system is the only viable instrument of distribution which can be used in this Continent's emerging era of abundance -- the progress of which is being sped up by automation. This Energy Accounting system provides the means whereby each individual North American can express their individual preference as to what they want of the products North America is capable of producing. That is its function -- to record the demand for goods and services and thereby, to determine the amount to be produced. By applying one specific technological measuring device, production and consumption can be balanced and the first specification for social harmony is immediately achievable.

### **Consume with meaning**

The only real choice is consuming power. With an abundance of consuming power, we can consume as often as we like, every day of the year, and always win our choice.

Energy Accounting eliminates both the basis and the need of all social work and charity. It would reduce crime to but a small fraction of what exists today.

If you don't like the war, the poverty, the misery, the waste, the crime, the disease, and the corruption which the Price System spawns, why do you stick with it?

[Technate design : some basic facts](#)

## Beyond the Price System... Politics, Religion & Economics in the Price System



**This section was composed by Dean D. Cameron**

The Design of the Technate precludes special interest control.

The design of the TECHNATE OF AND FOR NORTH AMERICA...

Any and all special interest groups, have but one commonality. That is to deprive others of something, and there must be gain for the special interest group members. Otherwise there would be no function of or for a special interest group. [Price System Politics.](#)

The design of the Technate precludes ANY special interest groups from having any power or control over the Production, Distribution or Consumption of all goods and services available under the operating System of the Technate, further this design precludes any special interest groups from having power or control over other humans. [Humanism & the Cultural Arts.](#)

Churches/Religious groups, are Special interest groups. PERIOD, as are all Political groups. One may hold any belief system they wish (in a Technate) however they have no special consideration regardless of how many may choose to believe what ever it is they believe.

All insanity is supported by one holding a belief system. No belief system is ever or will ever be supported by fact.

BELIEF SYSTEMS ARE STUCK WITH BEING SUPPORTED By Opinions.

Energy accounting in the design of the Technate has the function of just that. ACCOUNTING. [The Energy Certificate/Energy Accounting, Technate system.](#)

The results of that is knowing how much energy is being input (for any reason or product) and the rate of, as well as origin of consumption of that product.

This serves to assure replacement at that geo location of that product as a matter of design function.

Energy certificates are not debt tokens. They have no debt function. Energy certificates are NOT Energy Credits.

Both Credit and Debt are Price System functions, and neither exist in the Design of the Technate of and for North America.

Re : the Technocracy Study Course : The Design of the Technate for North America has not changed functionally. Increased technological efficiency simply makes the design much more efficient in its operation. The changing of data such as the Energy produced by a human, or the speed of light, (186,300 miles per second to 186,280 miles per second, for example does not in any way negate or even effect the Design of the Technate for North America. Any design other than that which follows the Design of the Technate as presented in the TSC is a Price System, and it can only function as a price system, which is what the world now uses.

The chorus needs not be preached to, the rest would do well to read and understand. The Technate as designed will likely never be demanded and installed by the Politicians. If it is installed, it will be because there is simply no other alternative other than chaos.

More information on this subject to follow. [Origin of the Political/Price System TNAT](#)  
[TheNorthAmericanTechnate](#)

**Part two.**

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The design of the Technate precludes any and all contract by and between individuals, groups, parties, organizations or persons.

The ONLY contract that can exist that is valid, thus enforceable, in the Technate for North America, is that contract which is made between the various governments of the world and the Sequence responsible in the North American Technate.

These contracts will exist to facilitate exchanges of raw natural materials for raw natural materials required by the Technate to operate as designed.

In as much that marriage is a contract by its very nature, such will not exist in a Technate.

Women in a Technate have the exact same support of goods and services as do males. Women in a Technate may or may not choose to bear children. Women may or may not elect to live with a male. Regardless of choice they will always have the exact same rights to housing etc, as any other member of the Technate. [Women Technate activists.](#)

Males will lose their ability to enslave or control women. Women will for the first time in history be as free as the meaning of the word is.

This is the design of the Technate for North America. Slavery will not exist in any form, nor will old male rule be accepted norms.

No other design aspect is possible, for a Technate to operate, as formulated by the Technical Alliance.

If it fails this, it is not the Technate designed for North America.

A file of this post, along with some other information... [Technate concepts. Some basic facts.](#)

## **Energy conversion as the key to a scientific social design**

**This section is edited from material written by Stephen L. Doll**

On January 13, 1933, North Americans gathered around radios to listen to a live broadcast by Howard Scott, as he addressed an audience of industrial magnates at the Hotel Pierre in New York City. These captains of industry had come to hear Scott give a presentation on the findings of the research group known as the Technical Alliance of which Howard Scott was Chief Engineer.

Scott was no politician or businessman, as the listeners soon found out. He began with a brief background of the Technical Alliance which had spent fourteen years on an objective study of the effects of science and technology on social change in North America.

He went on to point out the dramatic increases in population growth in certain parts of the world, particularly in the North American Continent. Then, he proceeded to dash to pieces some precious held concepts.

The reason for population increase and the improvement in the standard of living of the industrialized nations, Scott pronounced, was not due to financial philosophy or form of political government. The Technical Alliance found that, as technology is introduced to production, it is the purely physical factor of the time rate of doing work -- the reduction of time required to convert energy into forms usable to humans -- that is directly responsible for meeting the needs of, and making possible, the growth of populations and improvement in the standard of living.

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In societies previous to the introduction of the steam engine to industry, around 1840, work was carried out mainly by human muscle power, with a little help from animals and water wheels. Production was carried out at the speed of the hand tool, and was naturally slow. This low-energy state had prevailed throughout recorded history.

It was during this time of low energy conversion, reaching back thousands of years, that the present concepts of government, finance, and the virtues of sweat-of-the-brow labor were conceived and refined. Also, during this period of time there came into being the current distribution system that Technocracy calls the Price System -- that is, any social system that effects the production and distribution of goods and services using money.

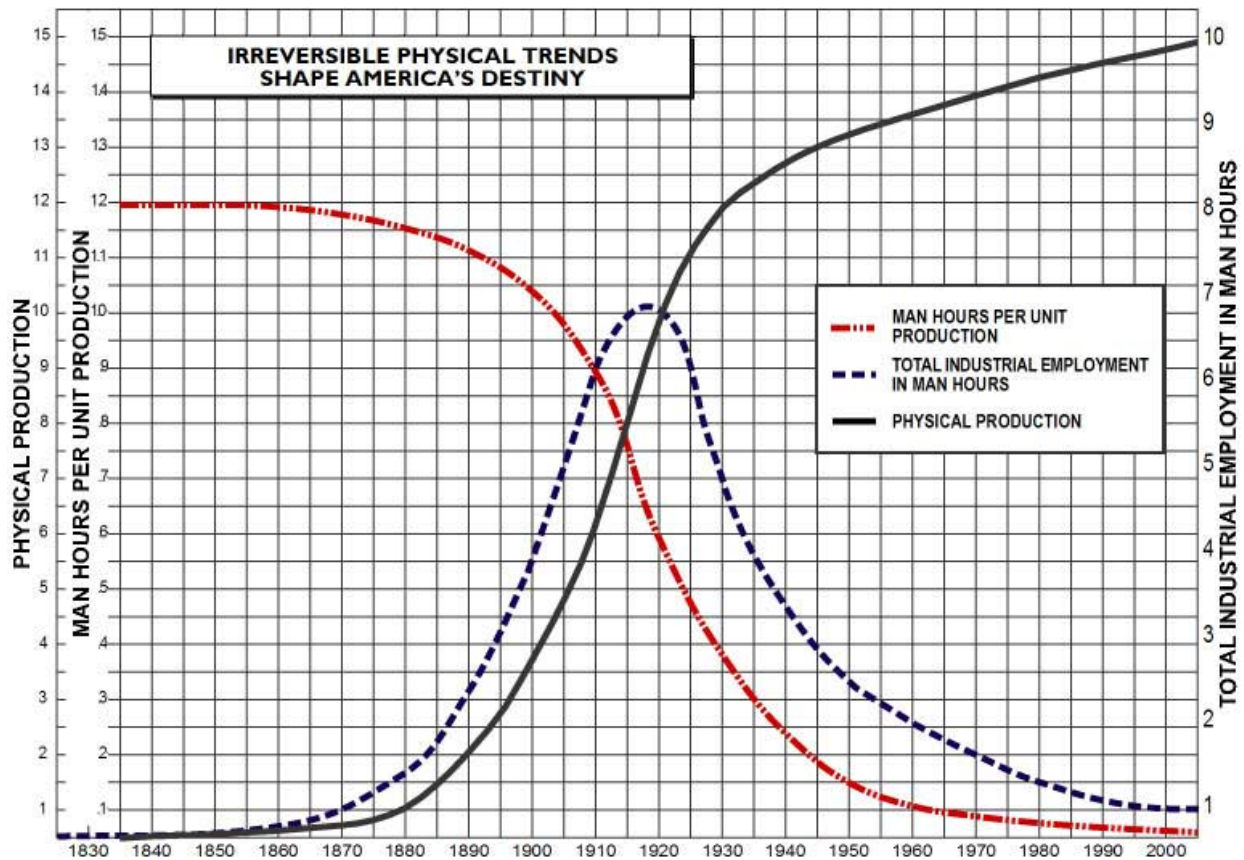
The world was still toiling in a state of low-energy conversion when, in 1776, Adam Smith published what was to become the classic economic theory we still employ to control production and distribution.

Scott pointed out that this theory, which is based largely on the assumption that human labor determines the value of goods and services, is inappropriate in a high-energy civilization. As more extraneous energy -- that is, energy derived from a source other than human power -- is introduced into industry, production increases. At the same time, the necessity for human labor decreases. Therefore, the factor of human labor is no longer applicable.

At the same time production increases, man-hours must decrease. And, since man-hours generate consuming power in the form of wages, consuming power must decrease.

This trend may best be seen in the accompanying chart which was originally published in the Technocracy Study Course, a composite of the analysis of over 3000 aspects of the social structure of North America from the period just prior to the publishing of that book in 1934 -- from resources to energy consumption to industrial output. This chart made it possible for the Technical Alliance, to make projections about societal trends that are showing up now to such devastating effect on society.

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As may be seen in the "Physical Production" line, the amount of goods produced has increased in proportion to the installment of machinery. In the days before the introduction of the steam engine to industry, 98% of the labor was carried out by muscle power. It was during this time that the Price System, the only method of distribution now in use in the world (with the possible exception of a few isolated tribes) came into being.

From 1840 on, we saw an increase in "Total Employment in Man-Hours." This trend continued until the mid-1920s when a peak was reached. The decrease in total industrial employment has been constant ever since, as business has introduced labor-saving devices, or farmed out its labor to foreign countries, to maintain its profit margins. It has been successful at this, as labor, once the largest expense business had to deal with, only accounts now for about 10% of operating expenses.

Now observe the "Man Hours per Unit Production" line. Compare this curve with the "Production" line. It is clear that man-hours, both as a method of determining value and as a source of consuming power in the form of wages, are on the way out.

In his address, Scott pointed this out, and said that as this trend continued, we would see progressively more severe periods of unemployment and loss of consuming power, "not in technological employment, but in a reduction of total employment and of total purchasing power." (It may be noted here that the only way purchasing power has been maintained has been by the creation of an imponderable debt structure.)

Scott observed that rather than the amount of labor that goes into producing goods or services, it is the scarcity of supply that dictates value, and scarcity is incompatible with a technology capable of producing abundance for everyone. He drew a very definite line

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between physical wealth, the actual conversion of energy into use-able forms, and monetary wealth, which is nothing more than the ability to create debt.

It is time, he told the nation, for a new way of operating the Continent, one that would unleash the tremendous productive capacity of North America for the benefit of all citizens. It is time for governance not of people, but of the physical plant of North America by those most qualified. Get the politicians and financiers out of the way, Scott declared, and the Continent would witness prosperity such as the world has never before seen.

These observations, as may be expected, were bitter gall to industrialists who spoke in terms of dividends and profit margins. They had come to hear how they could get out of the Depression with their corporate skins intact and resume business as usual. Here was this man talking about energy conversion and the time rate of doing work. He even went so far as to say that all such special interest groups as liberals, debt merchants, and communists would wind up sharing "the mud of the last ditch wherein they now struggle so valiantly."

The industrialists clicked their tongues, shook their heads, and proceeded to write the Technate design off as just another will-O'-the-wisp, like the Townsend plan. Then they went off to the government, hats in hand. They even tried to hire Scott at a princely wage, but Scott refused to be bound by what he called their "platinum handcuffs."

Scott later maintained that he had in his possession a telegram directing all employees of the Hearst Corporation never to mention Technocracy again if they wanted to keep their jobs.

Not everyone was cowed by the bluster of the media megaliths, however. The VANCOUVER SUN heralded the Technate program for social reconstruction as "North America's Great Chance". The Decatur, Illinois, HERALD-REVIEW headlined it as the "CURE FOR ECONOMIC ILLS". Encyclopedia Americana called it the "only program of social and economic reconstruction which is in technical accord with the age in which we live." H.G. Wells spoke of it as a sound method of placing economics on a purely physical basis.

Simply stated, the three-curve chart shows that, with the installation of high-production machinery, we should be enjoying more and working less.

So why do we endure poverty in the midst of such potential? Why do we see record numbers of murders being committed? Why do our prisons house a greater proportion of inmates than any other nation? Why do we destroy food or leave fields unplanted as people go hungry? Why have we fouled our air and water? Why do we fritter away precious natural resources on shoddy or non-essential goods, or on the needless duplication of production in the name of "competitive enterprise"?

The answer lies in our slavish adherence to the outmoded monetary structure, or Price System. It is the Price System, and our die hard efforts to preserve it regardless of the cost to human society and our physical environment, that accounts for the vast majority of the social and environmental stress we are witnessing.

It is the adherence to this Price System, the forced shortage of supply in order to keep up prices, or value, that is the root cause of the inequity in distribution that gives rise to a great many of our social problems: crime, poverty, wars, stress-induced drug, alcohol, child and spouse abuse, bribery, political corruption -- even the dissolution of the family structure, as parents are forced out of the home into the workplace in order to make ends meet.

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It is also the Price System and its use of contrived methods to effect the consumption of tangible resources that has led to the misuse of our technology to increasingly devastate our earth.

Howard Scott and the Technical Alliance, applying the scientific method to the social structure and by subjecting it to objective analysis, concluded that a technological administration of the physical functions of the Continent was the next most probable state of society -- the destiny of North America. To attempt to forestall or prevent such a conversion would ultimately result in social and environmental chaos.

Information from the Technical Alliance, maintains that the distribution of abundance to all is a technical not a political or financial problem. We have in North America the installed equipment, the resources, and the technological know-how to offer to every citizen the highest standard of living in the world, with a minimum of human toil.

In North America we have reached a parting in the road: one way leads to a continuation of the increasing social ills already in progress, and the other leads to a solution, once and for all, of the social inequities which have plagued mankind for thousands of years. At present, this Continent, as predicted by the writers of the Technocracy Study Course, is in a transitional period, and a deliberate effort is required for its citizens to move off the track leading to chaos. The Technate design for North America is the viable alternative for functional governance.

## Energy accounting & balance

**Energy Accounting** is the system of distribution, proposed by the Technical Alliance and published in the *Technocracy Study Course*, which would record the [energy](#) used to produce and distribute goods and services consumed by citizens in a [Technate](#).<sup>[1]</sup> Scientists have written and speculated on different aspects of energy accounting.<sup>[2]</sup> Many variations of energy accounting are in use now, as this issue relates to current ([price system](#)) economics directly, as well as projected models in possible [Non-market economics](#) systems.

[Energy economics](#) relating to [thermoeconomics](#), is a broad [scientific](#) subject area which includes topics related to [supply](#) and [use of energy](#) in [societies](#). Thermoeconomists argue that economic systems always involve [matter](#), [energy](#), [entropy](#), and [information](#).<sup>[3]</sup> Moreover, the aim of many economic activities is to achieve a certain structure. In this manner, thermoeconomics attempts to apply the theories in [non-equilibrium thermodynamics](#), in which structure formations called [dissipative structures](#) form, and [information theory](#), in which [information entropy](#) is a central construct, to the modeling of economic activities in which the natural flows of energy and materials function to create scarce resources. In thermodynamic terminology, human economic activity may be described as a [dissipative system](#), which flourishes by transforming and exchanging resources, goods, and services.<sup>[4]</sup> These processes involve complex networks of flows of energy and materials.

Once we understand the various transformations of energy that are possible, an [energy balance](#) can be used to track energy through a system, and is a very useful tool for determining resource use and environmental impacts.<sup>[5]</sup> The idea is to use the First and Second laws of [thermodynamics](#) to determine how much energy is needed at each point in the system, and in what form that energy is. The accounting system keeps track of energy in, energy out, and non-useful energy versus [work done](#), and transformations within the system.<sup>[6]</sup>

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Physical scientists and biologists were the first individuals to use energy flows to explain social and economic development. [Joseph Henry](#), an American physicist and first secretary of the Smithsonian Institution, remarked that the "fundamental principle of political economy is that the physical labor of man can only be ameliorated by...the transformation of matter from a crude state to a artificial condition...by expending what is called power or energy." [7]

In *Wealth, Virtual Wealth and Debt* (George Allen & Unwin 1926), [Frederick Soddy](#) turned his attention to the role of energy in economic systems. He criticized the focus on monetary flows in [economics](#), arguing that "real" wealth was derived from the use of energy to transform materials into physical goods and services. Soddy's economic writings were largely ignored in his time, but would later be applied to the development of [biophysical economics](#) and [bioeconomics](#) and also [ecological economics](#) in the late 20th century. [8] [Georgescu-Roegen](#) introduced into [economics](#), the concept of [entropy](#) from [thermodynamics](#) (as distinguished from the mechanistic foundation of neoclassical economics drawn from Newtonian physics) and did foundational work which later developed into [evolutionary economics](#). His work contributed significantly to [bioeconomics](#) and to [ecological economics](#). [9] [10] [11] [12] [13]

The units of the accounting system proposed by Technocracy Incorporated, would be known as **Energy Certificates**, or **Energy Units**. Energy accounting would replace [money](#) in a Technate, but unlike traditional [currencies](#), energy units could not be saved or earned, only distributed evenly among a populace. [14]

Energy units would probably not have to be physically handled by the citizens themselves, as the system would likely be computerised. In this proposal, the Technate would use information of all available [natural resources](#), industrial capacity and citizen's consuming habits to determine how much of any good or service was being consumed by the populace, so that it could match [production](#) with [consumption](#). It is this balance between production and consumption that is represented by the Technocrats' chosen symbol, the [Monad](#).

The amount of energy units each citizen would have would be equal, within a sustainable context, the constraining factor being the Technates resource base and technological level. The reason for the use of energy accounting according to Technocrats is that it would ensure the highest possible standard of living as well as [equality](#) among the Technate's citizenry, within the context of sustainable abundance.

Energy accounting as proposed, uses a [post scarcity](#) type of economy as its basis. [15] The Technate design as projected, would include such post scarcity aspects as free housing ([Urbanates](#)), transportation, recreation, and education. In other words free everything, including all consumer products, as a right of citizenship. [16] Everyone would receive an equal amount of consuming power via this [Non-market economics](#), post scarcity method, in theory.

### Projected benefits

Under the Energy Accounting system, a car, for example, would be valued by the energy it takes to create the product (energy to run and supply the factory, plus the energy to transport all materials and the final product, plus energy consumed by humans involved with production or transportation, etc.). In this way, [ecological](#) costs are accounted for, since energy is the main non-renewable resource consumed by humans. A manufacturing system which produces a car using less energy, would be more environmentally sustainable. In this way, quality and efficiency are maximized through careful review of their toll on the total reserve of energy and resources available to the population.

Another example of why technocrats support the energy accounting system is that they say it can eliminate (or greatly mitigate) many social problems, which are caused by problems in the current [Price system](#). Since the productive capacity of the technate is equally available, technocrats state that things such as theft, gender inequality, and class

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hierarchies would be mostly eliminated from a consuming point of view, as all citizens would be equal in consuming power.

An additional advantage to energy accounting would be its empirical accuracy, namely, energy units could not appreciate or depreciate in value, and would themselves be direct representations of physical quantities. This would eliminate the possibility of debt and inflation, credit or debit in monetary terms, and release humans from a [class system](#) based on [money](#). Everyone would receive an equal amount of consuming power via this [Non-market economics](#), [Post scarcity](#) method, in theory, and the reward and punishment aspect of money is not in play. Things like education funding would no longer be measured in a money budget, but would be allocated the amount of resources needed to accomplish educational goals. Special interest groups would also be precluded of power as the system outlined can not be influenced as our political price system is currently influenced.<sup>[17] [18]</sup>

Since technology is continuously evolving, there is much debate on what method would be used to record and measure expenditure of energy among the populace. However, as with most things connected to a science based social system as the Technate design is made out to be, the most efficient and practical method would be the one used. In any case, the Technate would have to use technology to eliminate security risks and make the process seamless.

### Opposition

Some arguments against energy accounting are briefly listed here:

- The money incentive is lost; people will not work
- There is no structure to the society, and people need hierarchies
- It creates too much equality

Technocrats would agree that, as consumers, every person would be equal in a [Technate](#). Technocrats argue that [communism](#) and [capitalism](#) are both systems evolved from [scarcity](#), and that mankind has never attempted to implement a system based on [abundance](#), using science and energy accounting to arbitrate government decision making. In this way, the technocratic system would not be susceptible to the failings of Communism or Capitalism or price system economic concepts.

One argument against a system that is used to distribute an abundance within the context of protection of resources is that there will always be [scarcity](#). While technocrats argue that technology can eliminate scarcity, opponents see it as a far-fetched dream at the present time. Technocrats argue that modern technology can produce more consumable goods and services (such as food, clothing, transportation, communications, etc.) than human beings are able to physically *consume*, and this is what defines an ability to deal with scarcity, and furthermore, that using a science based social system without the monetary concerns now used to arbitrate economic choice, protection of natural resources for our future survival is attempted as a priority, instead of money making.

**See also section below**

### [\\*Technocracy](#)

- 
- 
- \* [Technocracy movement](#)
  - [Energy Survey of North America](#)

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- [Artificial scarcity](#)
- [Post scarcity](#)
- [Abundance \(economics\)](#)
- [Willard Gibbs](#)
- [M. King Hubbert](#)
- [Non-market economics](#)
- [Econophysics](#)
- [Thermoeconomics](#)
- [Energy Balance](#)
- [Energy and Environment](#)

### External links

- [Energy Distribution Booklet](#)
- [The Energy Certificate](#) Adapted from an article by *Harold Fezer, Technocracy Magazine, July 1937*
- [Technocracy Inc. Archives](#) Multiple articles and essays, many concerning Energy Accounting.
- [A Place To Live In. Wilton Ivie Technocracy Digest Nov.1955.](#)
- [Economy and Thermodynamics: Borisas Cimbliris \(1998\)](#)

### References chapter 4.

1. <http://ecen.com/eee9/ecoterme.htm> Economy and Thermodynamics
2. Stabile, Donald R. "Veblen and the Political Economy of the Engineer: the radical thinker and engineering leaders came to technocratic ideas
3. at the same time," *American Journal of Economics and Sociology* (45:1) 1986, 43-44.
4. Baumgartner, Stefan. (2004). [Thermodynamic Models](#), Modeling in Ecological Economics (Ch. 18)
5. Raine, Alan; Foster, John; and Potts, Jason (2006). "The new entropy law and the economic process". *Ecological Complexity* 3: 354-360. doi:10.1016/j.ecocom.2007.02.009. Retrieved on 2007-11-19.
6. <http://www.eoearth.org/by/Topic/Ecological%20economics>
7. <http://telstar.ote.cmu.edu/envIRON/m3/s3/05account.shtml> Environmental Decision making, Science and Technology
8. Cutler J. Cleveland, "[Biophysical economics](#)", *Encyclopedia of Earth*, Last updated: September 14, 2006.
9. [http://www.eoearth.org/article/Soddy,\\_Frederick](http://www.eoearth.org/article/Soddy,_Frederick) Soddy, Frederick - Encyclopedia of Earth
10. Cleveland, C. and Ruth, M. 1997. When, where, and by how much do biophysical limits constrain the economic process? A survey of Georgescu-Roegen's contribution to ecological economics. *Ecological Economics* 22: 203-223.
11. Daly, H. 1995. On Nicholas Georgescu-Roegen's contributions to economics: An obituary essay. *Ecological Economics* 13: 149-54.
12. Mayumi, K. 1995. Nicholas Georgescu-Roegen (1906-1994): an admirable epistemologist. *Structural Change and Economic Dynamics* 6: 115-120.
13. Mayumi, K. and Gowdy, J. M. (eds.) 1999. *Bioeconomics and Sustainability: Essays in Honor of Nicholas Georgescu-Roegen*. Cheltenham: Edward Elgar.
14. Mayumi, K. 2001. *The Origins of Ecological Economics: The Bioeconomics of Georgescu-Roegen*. London: Routledge.

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15. The Energy Certificate essay by Fezer. An article on energy accounting as proposed by Technocracy Inc. [Energy Accounting](#) article on alternative system to money 'energy accounting'
16. The Energy Certificate essay by Fezer. An article on Energy Accounting as proposed by Technocracy Inc.
17. Ivie, Wilton *A Place to Live: 1955 Technocracy Digest*
18. R. B. Langan, ["I Am The Price System"](#), *Great Lakes Technocrat*, No. 66 (March/April 1944).

**Non-market economics** is the study of the [production](#), [trade](#), and distribution of goods and services via mechanisms other than the [market](#), in other words using systems other than the [Price system](#). Non-market economies do not operate through the exchange of [money](#). [Barter](#) is usually considered a type of a [commodity](#)-economy, so it is generally not considered a non-market economy. This type of exchange is also called [reciprocity](#). This includes unilateral giving such as gifts and bilateral giving, meaning a person gives a gift expecting to be repaid at some unspecified time.

The study of non-market economics is typically a part of [economic anthropology](#). Among the founders of the discipline are [Karl Bücher](#) and [Karl Polanyi](#).

One non market economic system proposed is based on [thermodynamics](#) and energy.<sup>[1]</sup>

Technocracy Incorporated proposes a non market economic system called [Energy Accounting](#)<sup>[2]</sup> which uses a [post scarcity](#) type of economy as its basis.<sup>[3]</sup> The Technate design as projected, would include such post scarcity aspects as free housing ([urbanates](#)), transportation, recreation, and education. In other words free everything, including all consumer products, as a right of citizenship.<sup>[4]</sup>

### References chapter 4.

1. Cutler J. Cleveland, ["Biophysical economics"](#), *Encyclopedia of Earth*, Last updated: September 14, 2006.
2. <http://telstar.ote.cmu.edu/enviro/m3/s3/05account.shtml> Environmental Decision making, Science and Technology
3. [The Energy Certificate](#) essay by Fezer. An article on energy accounting as proposed by Technocracy Inc. Article on alternative system to money 'energy accounting'
4. [A Place To Live In. Wilton Ivie Technocracy Digest Nov.1955](#)

## Chapter 5. The Price System... selected excerpts from Lessons 15, 16, 17, & 18 of the *Technocracy Study Course* [Technocracy Study Course - links to the unabridged copy.](#)

It is customary among modern nations to adopt a particular metal, usually gold, as the base of the monetary system, in which case the value of gold as coin is taken to be equal to the value of an equivalent amount of gold as a commodity. That this relationship is purely arbitrary may be seen by the fact that nations have of late gone on or off the gold standard at will, and may by edict define the unit of value to be equivalent to any arbitrary amount of gold.

In a monetary economy, the amount of money exchangeable for a given unit commodity is said to be its *price*. The person who exchanges the commodity for money is said to *sell* the commodity; the person paying the money is said to *buy* the commodity.

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### Definition of a Price System

The foregoing discussion forms the basis for a definition of what is meant by a Price System. The fundamentals of any Price System are the mechanics of exchange and distribution effected by the creation of *debt* claims or the exchange of *property* rights on the basis of commodity valuation irrespective of whether property in that system is individually or collectively owned. Hence any social system whatsoever that effects its distribution of goods and services by means of a system of trade or commerce based on *commodity valuation* and employing any form of debt tokens or money, constitutes a Price System. It may be added in passing that unless it be in some very remote and primitive community, none other than Price Systems exist at the present time.

#### References:

*A Primer of Money.* Woodward and Rose.

*Wealth, Virtual Wealth and Debt* Frederick Soddy

### Lesson 16

#### RULES OF THE GAME OF THE PRICE SYSTEM

The foregoing discussion of the concepts of ownership, of trade, of value, and of money, has enabled us to define what Technocracy means by the term Price System.

It has already been shown that money had its origin as an expression of debt or of deferred payment, and, since by common social agreement it is universally acceptable, a given amount of money represents a general debt of society to the holder, with neither the particular debtor nor the commodity which is owed being specified.

That is to say, that money constitutes a debt claim of a certain value against any individual, and for any commodity having an equivalent value.

**Negotiability of Debt.** Other forms of certificates of debt of a less general nature are likewise in common usage. If one person sells another his property rights in some object, say an auto-mobile, he may not receive goods in exchange, or even money. He may, instead, receive an IOU, stating that there is owing to him a given sum of money which will be paid at the expiration of a given period of time. Such an IOU constitutes another form of debt certificate. In this case, the certificate is more specific than in the case of money, in that it states that a particular person is the debtor. The holder of the debt certificate, however, may trade it to a third party in exchange either for goods or for money, in which case the debt is now owed to the third party.

Thus, certificates of debt, whether in the form of money, of promissory notes, or personal IOU's, are negotiable, and can be bought and sold or traded in, in exactly the same manner as property rights in physical equipment.

Other forms of debt certificates are bonds, mortgages, bank deposits, insurance policies, and bank notes.

**Certificates of Ownership.** Besides certificates of debt, another of the more common types of certification employed in the more advanced stages of Price Systems, are certificates of ownership. In a more primitive society, ownership of physical property is maintained largely by unwritten social agreement or by the physical prowess of the owner. In the more advanced stages, however, ownership in larger items of property is attested by some form of legal document stating that a particular person or corporation has the rights of property with regard to some particular thing. This may be an area of land, an automobile, a building, a book, an invention, a franchise, etc.

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Certificates of ownership are of different kinds, depending upon the type of thing owned. Ownership in real estate is certified by title deed, in an automobile by bill of sale, in a consignment of goods by bill of lading, in the right to publish a book by copyright, and in the right to manufacture an invention by patent.

With the increase in size, complexity, and rate of operation of the physical equipment of the Western World in consequence of the transition from a low-energy to a high-energy state of industrial development, there has occurred a corresponding change in the form in which ownership has been exercised. It has already been remarked that in an agrarian society ownership was largely individualistic; that is to say, that a particular individual possessed complete property rights in a particular thing. In the eighteenth century and earlier, with the growth of commerce and of industry, groups of men found it convenient to form partnerships, as for example, the partnership of Bolten and Watt. At the same time, trading companies were organized for the purpose of conducting large scale commerce.

These partnerships and trading companies, especially in the United States, have, chiefly in the period since the Civil War, been largely metamorphosed over into a form known as a corporation.

A corporation is defined legally as a fictitious individual; that is, it can conduct business and own property exactly as an individual while at the same time being owned by individuals without these owners being in any manner liable for the corporation. An exception to this statement occurs in the case of certain Certificates of Ownership, double liability corporations such as national banks. In these the owner is liable for the debts of the corporation to an amount equal to his nominal monetary ownership in the corporation. Ownership, in the case of corporations, is expressed in two stages. In the first place, the corporation owns title deeds, patents, copyrights, franchises, etc., in exactly the same manner as an individual; in the second place, the corporation itself is owned by individuals who are known as stock holders, the certificate of ownership in the latter case being the corporation stock.

The ownership of a corporation stock conveys to the holder the right to participate in the corporation profits when these are distributed in the form of dividends.

**Wealth.** Another Price System term that needs to be considered here is that of wealth. The term, wealth, is taken to signify the monetary value of physical assets of all sorts and kinds, including land, mineral resources, live stock, as well as man-made equipment. Wealth in the foregoing sense may be considered to be national wealth, as contrasted with individual wealth. Individual wealth consists in actual certificates of ownership of physical wealth in the sense defined above, or else in certificates of debt stating that the individual has a claim upon a certain value equivalent. Since debt claims are, in general, the more readily negotiable, it is simple to see how our present money-mindedness has arisen. It has become customary, not only for the layman, but for the businessman, the financier and the professional economist, to think almost exclusively in terms of money or debt while taking only vaguely into account the fact that somewhere in the background, physical equipment exists and operates; that upon this operation the entire social structure depends; and that but for this, the entire debt and financial structure would fall like a house of cards.

**Creation of Debt.** Individual wealth, as we have seen, consists largely in debt claims—money, bank deposits, bonds, etc. and when not in these forms is expressed in equivalent units of value, which now have come to mean the amount of debt claims that could be acquired or exchanged for rights in physical property.

Since debt claims constitute a claim for property rights in physical equipment, and have the same validity as actual ownership, it becomes manifestly of some importance to inquire into the mode of origin of these claims. Debt always signifies a promise to pay at some future date. Thus any incomplete barter—that

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is, a case where goods are delivered with the understanding that the goods in exchange will be received at some future date-constitutes a creation of debt.

Similarly, if a corporation issues bonds, these bonds are purchased for money, and since money already constitutes a debt claim, and the bonds represent a new creation of debt, it follows that debt, unlike physical substance, can be created out of nothing. In other words, the process of floating a bond issue does not of itself involve any change in the amount of physical equipment, either before or after. A similar line of reasoning applies to mortgages on real estate, promissory notes, and IOU's.

**Banking and Credit.** By far the largest single type of debt in the United States is bank debt, and banks are, accordingly, the largest creators of debt. Since this is true, and since banking forms the central nervous system of our entire debt structure, which, in turn, controls the operation of the physical equipment, it becomes a matter of some importance that the mechanism of banking be examined critically. There are many misapprehensions of the mechanism of banking, ranging from the popular misconception of a bank as merely a repository for the safe-keeping of money, to the conception of a bank as an institution that takes in money from depositors, lends it to other people, and acquires its profits by receiving a higher rate of interest, on the money it lends than it pays on that which it borrows. All of this, as H. D. McLeod in *Theory of Banking and Credit* makes abundantly clear, is totally erroneous.

The essential mechanism of banking is as follows: A banker is a human being or corporation with a ledger and a vault for the safe-keeping of money and other debt certificates. A depositor brings money to the banker. The banker accepts the money, and records in his ledger a bank credit or deposit in favor of the customer equal in amount to the money brought by the customer. This credit or deposit entered in the banker's books is a statement of the debt of the banker to the customer. It is a statement, in effect, that the banker is obligated to pay the customer on demand. or at the end of a certain period of time, depending upon whether the deposit is a demand or a time deposit, an amount of money up to the full amount of the deposit. Contrary to the commonly accepted notion, a bank deposit does not signify money, but signifies, instead, a debt due by the banker to the customer. The money in the bank does not belong to the depositors, but is the property of the bank to do with as the banker sees fit within his legal limitations. Thus, in bank records, the cash on hand represents always a part of the banker's assets because it is his property. The deposits, on the other hand, are among the banker's liabilities, representing his debt to others. (See fractionated banking, a longer explanation using examples in the *Technocracy Study Course* in lesson 16).

Thus we see that the real business of banking is that of the buying and selling of debts. The banker buys a debt from his customer, and out of thin air, so to speak, creates for this customer a bank deposit which is another debt, or as McLeod has stated it in *Theory of Banking and Credit*: "At the present time credit is the most gigantic species of property in this country, and the trade in debts is beyond all comparison the most colossal branch of commerce. The subject of credit is one of the most extensive and intricate branches of mercantile law. The merchants who trade in debts-namely, the bankers-are now the rulers and regulators of commerce; they almost control the fortunes of states. As there are shops for dealing in bread, in furniture, in clothes and other species of property, so there are shops, some of the most palatial structures of modern times-for the express purpose of dealing in debts; and these shops are called banks. And, as there are corn markets and fish markets, and many other sorts of markets, so there is a market for buying and selling foreign debts, which is called the Royal Exchange. Thus, banks are nothing but debt shops, and the Royal Exchange is the great debt market of Europe."

Consequently, when the deposits of a given bank are many times greater than the cash on hand, that bank is doing a thriving business, but when the deposits are equal to the cash on hand, the bank is doing no business at all, and has become merely a repository for money

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with a state of complete liquidity—a state that many of our larger banks at the present time are approaching (The *Technocracy Study Course* was first published in 1934. The circumstances to the present time are noted.)

**The Compound Interest Property of Debt.** Not only is debt, as we have seen, created out of thin air, but it has another property, according to the present rules of the game of the Price System, which is described by the term *interest*. According to this latter property, debt is expected to generate more debt, or to increase at a certain increment of itself per annum. This annual amount of increment expressed as a percent of the original amount, or *principle* is called the *interest rate*. A conservative interest rate on investments has been considered of late to be around 5 percent per annum.

**Growth of Debt.** It is to be expected as a consequence of this property of spontaneous generation of debt out of nothing, that the total debt structure of a Price System would tend to increase indefinitely. This we find to be, indeed, the case.

References: Wealth. *Virtual Wealth; and Debt*. Soddy (Chaps. 1-5. *Virtual Wealth; and Debt*. *The Internal Debts of the U.S.* Clark.

### Lesson 17. The Flow of Money

We have already shown that money, bank deposits, bonds, and various other forms of negotiable paper are all generically the same, namely, debt.

In what follows we shall use the term 'money' merely to signify a circulating medium indiscriminately as to whether this medium be coin, currency, bank checks, or any other form of negotiable paper.

For our purposes the significant thing about money in this broader sense is that while it has the property of being created out of nothing or contracted into nothing in a manner quite unlike the physical operation of our industrial apparatus, it constitutes the mechanism of control over the latter. The first aspect of money, or debt, we have already discussed; it remains now to consider the manner in which it operates as an industrial control device.

**The flow of goods.** This latter aspect can be seen very simply when one considers the manner in which goods are made to move from the productive processes into consumption. All consumable goods have their original source in the earth. From the earth matter is moved by mining, by agriculture, or by some other process into some form of manufacture. From the factory the finished product moves to the wholesaler, thence to the retailer, and finally to the consumer. After consumption, the matter of which the 'consumed' goods are composed is returned in part to the earth in the form of garbage, ash, and other waste products; and in some cases it is salvaged and returned to the factory as scrap metal, rags, and waste paper, to be used over again.

**The Mechanism.** Consider how these finished products move from the retailer to the consumer. This is where money enters the picture. The consumer hands the retailer, say, a five dollar bill, and receives from the retailer a pair of shoes. This illustrates the process. In every form of consumable goods and services the consumer hands money to the retailer, and goods and services, dollar for dollar, move to or are placed at the service of the consumer.

If the consumers spend in this manner 1 billion dollars per week, then 1 billion dollars worth of goods and services are moved to the consumers, and if this rate be maintained the factories must produce goods at this rate, and industry booms. If, on the other hand, the

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consumers spend only 100 million dollars per week, or one-tenth of the previous amount, assuming prices to be the same in both cases, industrial production will be only one-tenth of what it was before, or by comparison, almost a complete shutdown.

This simple mechanism under a Price System method of industrial control, determines completely what industry shall do. If the money flows freely from the hands of the consumer to the hands of the retailer, goods flow freely in the opposite direction, and industry operates; if the money merely trickles from the hands of the consumer to the hands of the retailer, goods move in the opposite direction at a correspondingly small rate and industry shuts down.

It remains to be seen what determines this rate of monetary flow.

**The Process.** First, let us consider what happens to the money after the retailer gets it. The retailer must pay his help and a part of the money is used for this. He must also pay his rent, and a part goes for this. He has, besides, to meet his light bill, telephone bill, and various other miscellaneous charges. He may have borrowed money from the bank or sold some bonds to obtain the capital with which to conduct his business, in which case a part of what he receives would have to be used to pay the interest. Finally, he must buy goods from the wholesaler to replace those he sold, and a greater part of the money which he receives goes for this. If, after these bills are paid, any money is left over this constitutes profit, and goes to augment his personal income if the retailer be an individual; or, if the retailer be a corporation, these profits may be disbursed as dividends to the stockholders.

Exactly the same relationship that we have described between the consumer and the retailer exists between the retailer and the wholesaler, and between the wholesaler and the manufacturer. In each of these cases goods move from the wholesaler to the retailer when, and only when, money in the broader sense that we have defined moves from the retailer to the wholesaler, and from the wholesaler to the manufacturer.

Like the retailer, the wholesaler must pay his help, his landlord, his interest, light, telephone, and miscellaneous, bills. Any surplus above these can be disbursed as profits. The manufacturer must do a similar thing, for he must pay all these bills, as well as purchase his raw materials. The raw materials, as we have pointed out, are derived originally from the earth, so that the last payment made in this series is that which goes to the farmer for his produce, or, as royalties, to the owners of mineral resources.

Now, let us review this whole process. Goods move in one direction, from the earth to the consumer and back to the earth again; money moves from the consumer to the retailer, the wholesaler, the manufacturer, and finally the landowner. But this monetary stream is being tapped at each section of its length, and being fed back as wages, rent, interest, profits, etc., and becomes the income of various individuals, who are themselves consumers. By the time this monetary stream reaches the ultimate landowner, who is the last person in the physical flow line, every cent that was originally paid to the retailer has been in this manner accounted for. Thus, if a million dollars passes from the consumer to the retailer, a million dollars worth of goods will be produced and consumed, and this same million dollars in the form of wages and salaries, rent, interest, profits, royalties, etc., will be paid out to individuals who are consumers, and will accordingly augment their incomes by the amount of one million dollars. Thus the sale of one million dollars worth of goods in this manner ultimately provides consumers with one million dollars with which to buy another million dollars worth of goods. That is, provided that none of the million dollars originally spent is retained in any manner.

**Saving.** Let us suppose, however, that somewhere along the route a part of this money

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passes into the hands of corporations, and that these corporations are making a profit, only part of which they payout as dividends, the remainder being held as corporation surplus. If, in this manner, out of each million dollars paid in by the consumer, 100,000 dollars was held out by the corporation as surplus, then only 900,000 dollars would be returned to the consumer. Consequently, the second time around, the consumer would be able to buy only nine-tenths as much goods as he bought the first time. Industrial operations would, accordingly, only be nine-tenths as great. This process would continue with industry shutting down one-tenth of its previous production for each time the money made its complete circuit until ultimately complete industrial paralysis would result. This, of course, assumes that the money which was saved by corporations was locked up in a vault or hoarded.

The same result would occur if individuals, thinking that they might need some money for illness or old age, instead of spending all they received, should decide to lock a part of it up and keep it. To the extent that this was done goods would not be bought, and industry would not operate.

Thus we come to the conclusion that if prices remain the same, and if either corporations or individuals save by withholding from circulation a part of the money which they receive, the ultimate result will be industrial paralysis.

We must consider, however, the fact that there are various ways other than hoarding by which corporations and individuals can save. If a corporation wishes to manufacture and sell more goods than the current purchasing power is able to buy, it may do so by extending credit to its purchasers, or selling on the installment plan. In this manner they may payout all the money in the form of cash which they receive and still show a book profit in the form of accounts receivable.

**Investment.** Another way a corporation can save without hoarding is to take the profits which are not disbursed as dividends and build a new plant. In this manner all the money otherwise withheld is fed back through the various channels of wages, salaries, etc., and the corporation is the possessor of a new plant. In an exactly similar manner individuals may invest their savings in corporate stock, and thus help build new plants or they may put them in savings banks or take out life insurance, in which case these latter agencies invest the funds in new productive equipment. Thus we see that if savings, whether corporate or individual, are reinvested in physical equipment they ultimately return to become the purchasing power of individuals, but in the process the country's capacity to produce has been increased.

That this is an endless process can be seen when it is considered that in the following year the new equipment will begin to produce, and then the purchasing power which heretofore has been sufficient to buy only the products of the existing plant will be inadequate to purchase the combined output of the old plus the new plant if prices remain the same. This difficulty can only be met (provided prices are not lowered) if the savings continue to be reinvested in new equipment-so that at all times the money which is being paid out to consumers through the construction of new plants is sufficient to make up the deficit in consumer purchasing power caused by money being held out by individual and corporate savings.

**Results of the Process.** This, it will readily be seen, is a compound interest type of thing. Under the hazards that exist in a Price System it is imperative that both individuals and corporations save. If they save by hoarding they shut the existing plant down; if they save by building new plants they have a process which can only work provided the plant be continuously expanded and at an accelerating rate. That the latter policy is impossible to continue indefinitely simple physical considerations will show. As we have pointed out

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previously, no physical process can continue to grow at a compound interest rate for more than a limited period of time. The limitations of our natural resources on one hand and of our physical ability to consume on the other both require that this be so.

References: *Theory of Business Enterprise*, Veblen.  
*Profits*, Foster and Catchings

### **Lesson 18**

#### **Why The Purchasing Power Is Not Maintained**

We have seen how, under a Price System, the rate of flow of money from the consumer to the retailer of goods and services acts as an industrial control mechanism. We have found that if individuals and corporations be allowed to save, the requisite purchasing power to buy the existing products of industry can only be maintained provided money is being paid back to the consumer through the construction of new plant or other capital goods, at a rate equal to that at which money is being lifted from the purchasing power for consumers' goods through individual and corporate savings.

**The Inevitable Inflection Point** At first thought, from this simple consideration, it would appear that our physical production should expand indefinitely until blocked either by a physical limitation of the ability to produce or by a saturation of our ability to consume.

#### **The Financial Structure... and the Great Depression.**

The question that all this leads us to is, why was not the effective purchasing power sufficient? Why did it not keep pace with productive capacity?

If savings are used to build new plants, do they not then become wages and salaries of the workmen, and hence feed right back into the effective purchasing power? This would have been true a century ago in the days of hard money; today, however, money no longer conforms to this simple picture. The total amount of hard money in existence in the United States in 1931 was only about 5 billion dollars.

The amount of money represented by gold bullion, metallic coins, bank notes, and United States currency totalled only a little over 9 billion dollars. When it is considered that in 1933 the total of all long- and short-term debts, including money, amounted to 238 billion dollars, it becomes immediately evident how relatively insignificant the small amount of actual cash in existence is in such a picture.

**The Process Of Investment.** The simple fact is that when individuals and corporations save through the process of reinvesting, these savings are not, as naively supposed above, spent, except in a small part in further plant construction. The greater part of all investments in the U.S. from the year 1900 to 1931 went into pure paper, without there having been a plant expansion commensurate with the amount of money invested. The history of almost any great American corporation will bear this out. Most American industrial establishments which have since grown into positions of national consequence began in a small way under individual or partnership ownership; or else, like some of the earlier railroads as joint stock companies, the shares of which were sold directly to the public without their having been even listed on the Stock Exchange. Profits were plowed back into the business, and the plant expanded under its own savings. Debts were contracted, if at all, usually by short-term loans from the banks. Except in the case of the joint stock companies, ownership was maintained by a single family or by a small number of partners. In these formative stages securities speculation was a practice little indulged in, and the money obtained from the sale of securities was practically all used to expand the plant.

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It has been the usual history in such cases that after the industry in question was well established, bankers and promoters became interested. Through their services reorganizations or mergers have been effected. Bonds and preferred stocks have been issued to the former owners and to banking groups interested in the reorganization, usually in amounts greatly in excess of the original capital investment.

Over and above this, common stock has been issued, usually in an amount similar to that of the bonds and preferred stocks. These common stocks, however, have not been in general marketed by the corporation for the purpose of raising additional capital funds. They have, instead, been given away in the form of bonuses to bankers, promoters, and other interested insiders, or else issued as stock dividends for no monetary consideration whatsoever, and hence no addition to the plant.

These stocks are in turn fed into the Stock Exchange by these interested insiders until they are finally bought up by the investing American public. It is to be emphasized that the proceeds of such sales of common stock go to the insiders, and not to the corporations or into new plant.

A similar paper manipulation has been carried on in bonds and mortgages through the mechanism of the holding company. In this manner the paper of an operating company is used as security for issuing other paper of, say, a holding company, and this in turn re-hypothecated until several generations of stocks and bonds are issued and sold to an unsuspecting investing public, all with no backing whatsoever other than that of the original inadequate plant on which the first stocks and bonds were issued.

In many cases such bonds are still in existence long after the equipment securing them has ceased to exist.

When one considers that such manipulations as these are the accepted methods of sound finance it begins to be evident why the money reinvested in industry does not become available in a corresponding amount as further purchasing power.

If it happens that new plant is built at a sufficient rate to supply the deficit in purchasing power all is well and good, but there is no necessary reason why this should be so. The great bulk of savings, both individual and corporate, are reinvested.

Investment, we now see, consists in buying pieces of paper labelled usually as stocks or bonds. If the money spent for these pieces of paper were used to build a new plant this money would, in the manner we have already indicated, be largely paid out to workmen, and hence become effective purchasing power.

If, however, the securities purchased represent, as is usually the case, merely paper floated by interested insiders upon a plant already in existence, this does not increase the productive plant, and thereby augment small incomes; it becomes, instead, the medium of debt creation held by the bankers and promoters, and its interest or dividends go to increase further a small number of individual incomes which, in most cases, are already overwhelmingly large.

**Income class system... Great Depression era.** The net result of this kind of procedure is to produce an ever-increasing disparity in the distribution of the national income. This disparity is well brought out by the Brookings Institution Report on *Americas Capacity to Consume*, published in 1934. According to this report, in 1929 there were 27,474,000 families in the United States receiving an aggregate income of \$77,116,000,000. Of these, 24,000,000 families, or 87 percent of the total number of families received incomes of less than \$4,000 per annum, constituting only 51 percent of the total income. According to this report:

'Nearly 6 million families, or more than 21 percent of the total, had incomes less than \$1,000.

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'Only a little over 12 million families, or 42 percent, had incomes less than \$1,500.

'Nearly 20 million families, or 71 percent, had incomes less than \$2,500.

'Only a little over 2 million families, or 8 percent, had incomes in excess of \$5,000.

'About 600,000 families, or 2.3 percent, had incomes in excess of \$10,000.'

And further:

'The 11,653,000 families with incomes of less than \$1,500 received a total of about 10 billion dollars. At the other extreme, the 36,000 families having incomes in excess of \$75,000 possessed an aggregate income of 9.8 billion dollars. Thus, it appears that 0.1 percent of the families at the top received practically as much as 42 percent of the families at the bottom of the scale.'

These facts clearly show that the great bulk of the families receive incomes far below their physical capacity to consume, while a large part of the income goes to only a handful of people, and in an amount far in excess of their ability to consume.

Bearing in mind that consumption is a physical operation, and that there are definite physical limits to how much food, clothing, etc. a single individual can consume, it follows that the great bulk of the consuming must, because of preponderance in numbers, be done by those people with small incomes. The small number of people with the large incomes can account for only a small fraction of the total physical consumption. It is true that they build expensive houses in the suburbs, purchase rare and therefore expensive painting, and indulge in various forms of conspicuous

consumption. Still the fact remains that the amount of gasoline, food, clothing, etc., that is actually consumed by a family with a million dollar per year income is not at all commensurable with the magnitude of the income. 'While it is true that such families may employ a large coterie of servants, we must not lose sight of the fact that the money paid to these servants is their income, and that the consumption for which they are responsible cannot be credited to the millionaire family which employs them.

Due to the impossibility of spending even in conspicuous consumption the total of such large incomes, it follows that it is these which are likely to be the source of the greatest savings. This presumption is verified again by the Brookings Institution Report, according to which the aggregate saving of families of 1929 amounted to \$15,139,000,000. Of this, 34 percent was derived from the 24,000 incomes above \$100,000; 67 percent of these aggregate savings was accounted for from the 631,000 families with incomes above \$10,000 per year.

In other words, the bulk of the consuming is done by people having less income than \$10,000 per year; the bulk of the saving by those having incomes greater than \$10,000 per year.

What is significant about all this is that industry, as we have remarked before, is geared to the rate at which people spend money for consumable goods. Now, it becomes evident that almost all of this money that is spent for consumable goods is accounted for by those people whose incomes are far below their physical capacity to consume. These small incomes are in turn derived almost entirely from wages and salaries or from agriculture. The wages and salaries paid by industry are determined on a *value* basis in which human beings compete with machines.

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**Profits, Technology, and Purchasing Power.** An individual business man is in business for the purpose of making money.

If his particular business happens to be the operation of, say, a factory, he finds that there are two principal ways by which his profits can be increased. Other things being considered for the moment constant, he finds that his total profits can be increased by increasing his sales and hence the production of his product. The other way in which profits can be increased is by the lowering of the internal cost of production.

It is a simple physical fact that a human being at his best can only do work at the rate of about one-twentieth of a horsepower (one-tenth h.p. equals one-thirteenth kw.) Human beings at the lowest sweatshop rates cannot be paid much less than 25 cents per hour. Mechanical power, on the other hand, is produced at the rate of 1 kilowatt-hour per pound and a half of coal, and can be retailed at an industrial rate of about 1 cent per kw.-hr. Thus it will readily be seen that when man-hours sell at 25 cents or more each, while kilowatt-hours can be purchased at an industrial rate of 1 or a few cents each, and when it is further considered that the kilowatt-hour will do 13 to 100 times as much work as a man-hour, and do it faster and better without any attendant labor troubles, it becomes evident that man-hours have slight chance to survive. Thus, one of the most effective ways of reducing internal costs is to substitute kilowatt-hours for man-hours.

We now see that almost the complete controlling mechanism of industrial production is the rate of expenditure of small wages and salaries. If the sum of small wages and salaries in a given year is 50 billion dollars, then industrial production for that year is only slightly more than 50 billion dollars, because small wages and salaries are almost entirely spent for goods and services, and the large incomes accrue to such a small percent of the total population that they account for a relatively unimportant fraction of the total consumption.

Since one of the fundamental rules of the Price System is that only through the acquisition of purchasing power can the individual subsist, it follows that as the only means of acquisition open to the majority is employment, then he who does not work does not eat.

Collectively speaking, salaries and wages are directly proportional to the total man-hours required to operate the social system.

Employment, as we have seen elsewhere, depends both upon the quantity of production and upon the man-hours required per unit produced.

This process, we know already, is one in which total production is levelling off and the man-hours per unit produced are continually falling.

**Purchasing Power...** continuing from page 151 of the *Technocracy Study Course*.

In the earlier stages of such a process, production, while still increasing, falls further and further behind the plant's capacity to produce, because the wages and small salaries form a declining fraction of the retail price of the goods produced. This curtailment of production below the capacity of the existing plant tends to discourage the building of new plant. If, for instance, the capacity of existing shoe factories were 900 million pairs of shoes per year when the public was only buying shoes at the rate of 400 million pairs per year, this would lead to a curtailment in the rate of building new shoe factories.

This same sort of thing is true for any other branch of productive industry. Since a large part of the wages and small salaries are derived from the construction of new plant, this curtailment of the capital industry results in a further reduction of wages and salaries, and leads to a corresponding decline of purchasing, and hence of the production of consumers'

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goods. Once this decline sets in, it is self accelerating downward unless counteracted by means more or less foreign to the industrial process itself.

**New Industry.** Of the factors which are supposed to counteract the process we have just described, one is the growth of new industry. Let us consider such a case. Specifically what we want to know is, if present industry is not providing enough purchasing power to enable the public to buy its products when running at capacity, will a new industry make the situation better or worse?

Suppose that a plant manufacturing a completely new product is built. Suppose the plant cost \$1,000,000. Most of this \$1,000,000 goes to wages and salaries of the people who built it, and thus increases purchasing power with which to buy the products of the existing plant. Now let the new plant start operation, and let the retail value of its products be \$10,000,000 per year.

Suppose that only \$4,000,000 per annum of this is spent for wages and small salaries, Then one would have a situation where \$10,000,000 worth of new products are added to those which the public is expected to buy per year, but the consuming public-those receiving wages and small salaries-will have been given only \$4,000,000 with which to buy the products. The other \$6,000,000, if the product is sold, will all accrue to a small number of people in the large income brackets. If production is to be balanced, this small number of people must consume the \$6,000,000 worth of products. The observed fact is that in general they do not, and cannot. If, therefore, the whole production is to be disposed of, the money to buy it must be derived in part from the already deficient purchasing power accruing from the older branches of industry.

This sort of relationship was not true in the earlier days of industry, because at that time employment was increasing as production increased, and small incomes comprised the greater part of the cost of production. This enabled the public to buy back the goods produced and yielded a purchasing power which expanded as the productive capacity expanded.

The same technological factors that have enabled us to produce more goods with fewer people involved *working*, have at the same time rendered it impossible to sell the goods after they are produced. In the earlier days, new industry provided the deficit in purchasing power for current production, and at that time we could look forward to industrial growth with a corresponding prosperity; today we can look forward to neither.

See the *Technocracy Study Course...* for a much more detailed explanation of this, with the comparative figures and tables, for the years involved.

**Debt Creation.** We have already mentioned that this growing disparity between effective purchasing power and plant capacity leads first to a decline in the rate of increase of production, and next to an absolute peak followed by a decline in production.

It follows that the only way this trend of events can be temporarily retarded is through the process of *debt creation*. When the public has not the requisite purchasing power, we grant it a fictitious purchasing power through the mechanism of installment buying. We find also that by a similar device applied abroad we can promote foreign trade, and can ship away our goods and receive debts in exchange. Also, through the mechanism of securities speculation and other forms of paper manipulations, we have multiplied our millionaires. They, in turn, allow a small part of their incomes to trickle back to the market place through the medium of servants and other forms of ostentatious living.

Simple considerations will show that the debt process of balancing our national economy cannot long endure, for the fundamental property of debt, upon the validity of which an our

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financial institutions-banks, insurance companies, endowed institutions, etc.-rest, is that the debt structure is expected to expand at a compound rate of increment per annum. To maintain a 5 percent per annum rate of expansion on our debt structure, and have it bear any fixed relation to physical production, or, in other words, to maintain a constant price level in the meantime, would require that industry expand at a corresponding rate.

As we have seen, during the period from the Civil War till the 1st World War, American industry did expand at such a rate as to double its production every 12 years-a rate of growth of 7 percent per annum. During that period the monetary interest rate remained approximately stationary at about 7 percent per annum and our financial institutions were 'sound.'

Since the decade of the World War 1. industrial production has been levelling off and its rate of growth declining. In this situation the debt structure can do either of two things (or a combination of the two): (1) The interest rate can be kept constant, in which case the debt structure will expand faster than the industrial production and the ratio between debt and physical goods will continuously increase. This is pure paper inflation and leads to a corresponding increase in the price level or to a continuous decline in the amount of physical goods that can be purchased each year from the return of each dollar invested, which is, in effect; a decline in the interest rate. (2) The price level may remain stationary. In this case inflation is precluded so that the rate of increase of the debt structure must be held approximately equal to the mean secular rate of growth of production. This leads directly to a decline in the nominal rate of interest.

These deductions concerning the decline of the interest rate that must accompany the decline in the rate of industrial expansion are amply confirmed by the events since the year 1920. During that time the mean secular rate in industrial growth has been steadily decreasing.

Accompanying this the interest rate throughout that period has also been declining continuously until today the interest rates are the lowest in the last hundred years (1934 the year of this excerpt).

Since there is no reason to expect more than temporary periods of future industrial expansion, there is no reason to expect any other than temporary reversals of this downward trend of the interest rate. Yet an interest rate approaching zero undermines completely our complex of financial institutions, because these depend upon a finite interest rate for their existence.

All of this series of events which we have been discussing more or less hypothetically is what has actually been happening in the United States since the 1st. World War. From the 1st. World War to the stock market crash in 1929, the deficit of purchasing power that had to be met to maintain an increasing industrial production was derived largely through the mechanism of private debt expansion at home and abroad. After the stock market crash, with the resulting standing army of 15 to 17 million unemployed, and an industrial production of approximately 50 percent of that of 1929, it became necessary, in order to maintain the Price System, for the government *to assume the debt creation function*.

This is being accomplished by the Federal Government's borrowing about 4- billion dollars per annum more than its current income (1934 figures), and donating this under one pretense or another to the public to make up, partially, the deficit, resulting from so called normal business activity. A similar, though perhaps smaller, debt expansion is being carried on by state and local governments, many of which are dangerously near bankruptcy at the present time. In the meantime the banks belonging to the Federal Reserve System are reported in the newspapers as holding the highest surplus in history, and the United States Government itself has become the

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most profitable field for investment.

Thus, America finds herself today in the position where private corporate enterprise has practically ceased to exercise the prerogative of creating debt and' has voluntarily surrendered this prerogative to the Federal Government of these United States; so much so that the Federal Government has at this time become practically the sole creator of debt claims in large volumes for the sole purpose of sustaining the debt structure of this Price System by further Federal debt creation for the benefit of the majority holders of debt claims, chiefly of private enterprise.

Or, as Howard Scott has aptly remarked, "When American business men find it no longer profitable to indulge in further debt creation it is only just and meet that their government should do it for them."

In spite of all this so-called 'priming of the pump' by government expenditures, industrial production is still only slightly above the lowest point reached since 1929, unemployment is still variously estimated at from 10 to 12 million, relief figures are rapidly mounting to where, according to Relief Administrator Hopkins, there are now 19,500,000 people on Federal relief alone.

Playing the game by the Price System rules, there is no prospect in the future for the situation to do anything but get worse rather than better. And all this in the midst of potential plenty!

### References:

*America's Capacity To Consume*, Leven. Moulwn and Warburton.

*Security Speculation*, Flynn.

*Theory of Business Enterprise*, Veblen.

*The Engineers and the Price System*, Veblen

*Statistical Abstract of the U.S.*

*The Economic Consequences of Power Production*, Henderson.

*History of Great American Fortunes*, Myer.

*Robber Barons*, Josephson.

Arms and the Man *Arms and the Man*, (Reprint from Fortune).

Editors note... while debt creation has been managed to be increased... and consuming has been extended through wars and globalism and the use of propaganda methods since the writing of the T.S.C., it has come at a terrible cost to the environment... and also a cost to the North American people and ultimately the worlds people in terms of quality of life.

Proper health care, education, viable mass transportation and any number of public services have not come about because of the continued use of the Price System.

The information from these excerpted chapters of the *Technocracy Study Course* is eerily familiar though written in 1934, the Price System has not changed, substitute some modern figures in the place of the figures from that time period and the parallels are nearly identical.

The North American Technate design, a science based system, offers a viable alternative to the Price System method.

## **Chapter 6. Links and further information**

**The North American Technate,**

## Beyond the Price System... Politics, Religion & Economics in the Price System



**Technocracy Incorporated** proposed a fundamental change in both the economy and in forms of governance in [North America](#). The Technocracy Technate design is science applied to society, and a blueprint of a new method of social operation.

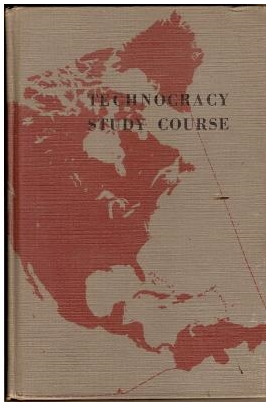
Today people connected to these ideas advocate for the original concepts of a [Thermoeconomics](#) based scientific social design, presented in the publication the **Technocracy Study Course**.

Most of the information put out by the original group... TechInc is good, except for some poorly written and disconnected material, called the T.T.C.D. or *Study Guide* and is best avoided as it is not connected to the original material or ideas except superficially, though as of this writing it is still offered.

Most of the archived material in the form of essays on that site are well done and interesting. [The Official Web Site For Technocracy Inc.](#)

### Brief history.

The Technical Alliance, formed at Columbia University in 1918, and published their findings in 1934. They found that the U.S.A. and Canada and the rest of North America together constitute a 'high tech society' of continental dimension... one in which the operation of our society is dependent on a vast array of installed technology and a high rate of energy conversion to run it. It is a continent wide structure, a high energy 'machine', providing the means whereby we live. It is manned by an 'army' of engineers, scientists, technicians and operators of many kinds, without which it would not continue.



With [Peak Oil](#), and the [Global Warming](#) crisis now developing, it can be easily argued that it is ever more apparent that our present form of economy, a [Price system](#), and our present form of governance, a [political system](#), are structurally incapable of taking effective action.

A new administration of science, a 'Plan B', is called for. Technocracy technate design, is the possible 'Plan B,' for enabling a continuance of the technology, with its operating staff, that will ensure our survival.

Technocracy Incorporated originally proposed a non political governmental system using [Energy Accounting](#) in a [Non-market economics](#) method based on science principles.

Here then is the 'raison d'être' for Technocracy, the 'core concept' that defines it. The core concept that is unique to Technocracy Inc, (established 1934) is this: *In a 'high tech' society (such as North America), to ensure stability, and continuity, it will be necessary to institute measurement and control of the economy by energy units instead of monetary units ([money](#)), and management of the economy by energy budgets instead of money budgets, at all levels.* Quote... [Howard Scott](#).

The precedent document that outlines the Technocracy Technate design is the *Technocracy Study Course*.

Technocracy Technate ideas and concepts are not connected to other groups in Europe or elsewhere, despite the fact that many other groups have tried to partially adopt our ideas...

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and at the same time changed them to other purposes, unrelated to a scientific social design.

The purpose of incorporating the design originally was to prevent unrelated groups from either dumbing down or changing the ideas into Price System theories or constructs unrelated to science.

Most technocrats are not revolutionaries... or only so intellectually, and do not have an assumption to power theory. We do provide information as to what a viable functional and alternative social design would look like.

We have presented information that is hoped becomes known and adopted.

Technocracy Technate information was a well known concept and idea in the 1930's in the United States and Canada. Then... the media pulled the plug on it. Even now, misleading information put out from that early time period is still making the rounds and finding its way into current corporate and other media.

In the 1930's an effort by media corporations was made to squash information concerning this alternative social design.

Technocracy concepts pull the plug on the current political Price System... so obviously some powers that be... are not fond of the ideas connected with it.

It has also been used as a vehicle for commercial Price System groups... that have tried to tag themselves to the original science based group... for notability. As said, groups in Europe or elsewhere would fit into this category... and mostly, at least so far present a skewed view of the subject that adopts some terms but fails to understand the big picture of the design in the *Technocracy Study Course*, and the reasons behind the design.

The governmental ideas presented by Technocracy design are not moralistic or based on opinions of ethics or aesthetic judgment. It is not a knot of people, in an oligarchic or fascist political system, forcing people to do things... it is designed as an administration of science and based on the equality of consuming power for its citizens.

Anthropological ideas are used... not sociological ideas. This system is a non-political form of government that is not controlled by a special interest group, whether of one person or a million. Special interest groups are precluded from the design.

Technocracy Technate design is not what is known as a democratic program although leadership posts are chosen by popular decision in the vertical alignment business method within the sequences of administration.

Democracy as is known in a Price System, can be related to as a form of slavery of opinion controlled by special interest groups of one thing or another, which is then enforced as law in a so called democratic contract society.

Contracts can not be made between people in a Technate... so called democracy and other forms of social behavior control are not allowed.

This protects citizens from others opinions that are then enforced by old fashioned *laws*. Instead of what passes as a judiciary now... trained experts are used to settle disputes and decide what to do with violent or destructive people.

The Technate system is secular and humanitarian by default. The Technate design is based on abundance within a sustainable resource base. Because it is designed around thermodynamics... it is *current* in the aspect that the metric that it uses, is real and not a monetary Price System metric.

The Technate design is located in the last two chapters... the design chapters of the Technocracy Study Course [Technocracy Study Course - excerpted design chapters and links to the complete copy.](#)

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Here is a link that goes to a series of 7 videos that give a simple explanation of the Technocracy Technate design. These videos were done by Arvid Pederson around 1980.  
[YouTube - TBonePickensetc's Channel Technate videos.](#)

This site presents information and files regarding Technocracy based on the original information from the Technical Alliance [The North American Technate TNAT](#)

Wikipedia offers some good information on these ideas. However the quality as one might expect varies from time to time.

- \* [Technocracy Incorporated - Wikipedia, the free encyclopedia](#)
- \* [Technocratic movement - Wikipedia, the free encyclopedia](#)
- \* [Energy Accounting - Wikipedia, the free encyclopedia](#)
- \* [Technate - Wikipedia, the free encyclopedia](#)
- \* [Non-market economics - Wikipedia, the free encyclopedia](#)
- \* [Thermoeconomics - Wikipedia, the free encyclopedia](#)
- \* [Urbanate - Wikipedia, the free encyclopedia](#)
- \* [Technocracy \(bureaucratic\) - Wikipedia, the free encyclopedia](#)

Here are some other links that relate directly to Technocracy Technate ideas or concepts.

- \* [Biophysical economics - Encyclopedia of Earth](#)
- \* [Environmental Decision Making, Science, and Technology](#)
- \* [ECONOMY AND THERMODYNAMICS](#)
- \* [Technate Design Basic](#)
- \* [I am the Price System ! essay](#)
- \* [Technate design-An idea for now-Stephen L. Doll](#)
- \* [Howard Scott - History and Purpose of Technocracy](#)
- \* [Women Essay Writing on Technocracy Technate TNAT-](#)
- \* [Money-History&Energy Accounting-TNAT The North American Technate.](#)

Here are two Facebook Technocracy sites any one can join.

- \* [Facebook | Technocracy Revolution](#)
- \* [Facebook | Technocracy is for the better!](#)

Also a MySpace site, that is an open group.

\* [The North American Technate TNAT](#)

This is a Stumble Upon site that features Technocracy Technate information

\* [TNATdesign's web site reviews and blog](#)

## **Chapter 7. An essay... by Stella Block**



Apollo and Daphne (Bernini)

### **Women ! Stella K. Block**

**Published in:**

**The Northwest Technocrat, No. 281,  
October, 1980. January 2008 TNAT**

Technate design offers to the women of North America a goal that is really worth fighting for. The Technate offers equal incomes for all -- not merely equal pay for equal work. There would be equal income as a right of citizenship. The goal of equal rights under the Price System is just not big enough. The amendment for equal rights falls far, far short of what

this Continent has to offer through the social design proposed by the Technical Alliance.

Let it be stated at the outset that fighting for equality under the Price System is the epitome of futility -- in short, it is not worth the effort. The fight for the equal rights amendment (ERA) is jousting at windmills. Proof? Women won the right to vote in August, 1920; the equal rights movement started shortly thereafter and has continued to the present time -- six decades! The U.S. Congress finally passed the equal rights amendment in 1972, but ratification by the states still has not occurred.

Opposition to the equal rights amendment has come not only from men but also from very articulate and determined women who fear social change as much as do men. What neither

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side realizes is that social change cannot be legislated. It cannot be stopped. It has already happened. It was in the same six decades during which women have been battling for equal rights legislation that the greatest social change in the history of the world has taken place. Politics hadn't a thing to do with it -- except perhaps as an impediment.

### **The way it was**

At the turn of the century, net production of electric energy was 5,969 million kilowatt-hours. Very few households were wired for electricity. There were no gadgets such as washing machines. It was the old washboard and copper boiler on a wood-burning stove that were used. Human muscle was the source of power. There were few vacuum cleaners as we know them today. Only the affluent had anything resembling power equipment in the homes -- operated by servants (female). The majority of women lived in rural areas or small towns serving the farms.

Clothes were homemade on a foot-pedaled sewing machine or sewn by hand. The more affluent, of course, had seamstresses come in perhaps twice a year to do the family sewing. Sewing was one of the very few occupations open to women at that time. Marriage was the primary goal of most women. Meals were cooked on a wood-or coal-burning stove. Every day and every waking moment of every day was filled with household chores to do. Monday was washday, with the water carried in buckets from a well -- and with the clothes out on the line before breakfast! Tuesday was ironing day, with the irons heated on the stove (winter and summer). The clothes were cotton, many heavily starched.

Fridays were cleaning days -- with broom and scrub brush, on hands and knees, to get the wooden floors sparkling clean. Saturday was baking day -- home-baked bread to last the week. In between, there were children to care for, gardening to be done and even field work when necessary, if the family lived on a farm. There was precious little time for contemplating or worrying about ``rights." Women, then, were just too busy and too tired at day's end to do much about it. It was a dawn-to-dusk workday. There was no time for a career outside the home except for perhaps teaching for the unmarried. This was the time when the adage of ``Women's place is in the home" held sway, simply because there was no choice.

It was not unusual for women to bear 10, 12 or more children. The state of hygiene and medical help being what it was at that time, not all children survived to maturity. Birth control was something that was only whispered about and not available to most women. A woman, generally, was worn out by the age of 35. It was also not unusual for a man to have had three or four wives in his lifetime.

Voting would not, could not, have helped women, then, any more than it is helping them now. [Technate design. Some basic facts.](#)

### **The introduction of change**

By 1920, the use of electricity increased almost tenfold -- to 56,559 million kilowatt-hours. That was the year the 20th amendment was ratified, following several decades of women fighting for the right just to vote. It was a very dubious victory, in keeping with the history of political chicanery. The inventor who developed the small electric motor did more for women's liberation than all the rhetoric of all the politicians since George Washington's time. The development of the small electric motor paved the way for the mass production of

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vacuum cleaners, washing machines, beaters, and a myriad of other gadgets that are taken for granted today. Social change was on the way with a vengeance.

At the turn of the century, the family, for the most part, was a self-contained unit. The man worked outside the home; he was the sole bread winner; the woman stayed home taking care of the home and children, completely dependent upon the husband and father for economic sustenance.

She, in turn, provided him with free services of a cook, laundress, seamstress, gardener, housekeeper, nurse, teacher and mistress. They were mutually dependent upon each other. It was all hard, unremitting labor, but more or less independent of outside needs.

Most everybody was in the same situation. With the development of cheap electricity, homes were soon wired, eliminating many tedious chores for women (and for men, too). Electric stoves began to make their appearance, eliminating wood-chopping. Expanding industry demanded greater record-keeping. With the invention of the typewriter and other technological developments in the home and in industry, women began to flock to offices and factories. In 1950, the total production of electric energy was 388,674 million kilowatt-hours; this increased to 844,188 million kilowatt-hours by the end of the decade. The family, as it was known at the turn of the century, had changed drastically.

It no longer was a self-contained unit. Small towns around the periphery of large cities became ``bedroom" communities. That is, people living in the small towns obtained jobs in the large cities and commuted back and forth. A home or apartment became, to a large extent, merely a gathering place for family members in the evening. Entertainment, work and schooling were obtained outside the home.

### **Social Change**

Social change, brought about by the installation of energy-saving devices in the home, the farm, the factory, is in full swing. Today, our use of electricity is astronomical. Voting had nothing to do with it. Thomas Davenport, of Brandon, Vt., patented the first electric motor in 1837. Nicola Tesla developed the electric motor to where it could be used universally. These men were apolitical. They simply had an idea and they developed it. The commercial use and exploitation was made by Price System promoters, not for the liberation of anybody or any class, but because it was profitable. In the process, both men and women have been ``liberated" from the back-breaking toil that obtained from early history.

The irony, here, is that the vested interests that promote labor-saving gadgets for profit are mostly the same vested interests that promote the insult of women being treated as second-class citizens. Their wage scales, as compared to men's, for the same type or work, attest to that.

### **Equality**

Technocracy offers to the women of North America a goal that is really worth fighting for. Technocracy offers equal incomes for all -- not merely equal pay for equal work. There would be equal income regardless of the work, be it menial or cerebral. The goal of equal rights under this Price System is just not big enough. Where do today's feminists want equality? In business? In politics? Both these endeavors are legal, lawful, confidence games. A politician operates from one election to the other; a businessman operates on the profit basis -- if it pays, he will support almost anything. The financial balance sheet is his criterion. The amendment for equal rights falls far, far short of what this Continent has to

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offer through the social design proposed by Technocracy. After six decades of fighting for equal rights, women are still discriminated against in the job market. Sexual harassment is one of the recurring complaints of women who have succeeded in invading traditionally male occupations. Fearful of losing their foothold, after years of schooling and preparation, women either submit or work in less than ideal conditions.

In a Technocracy, both men and women would be free to give their attention to the job, without fear of intimidation. If a person were transferred or demoted, the move would not affect his or her income; it would be guaranteed for life.

Women would also be freed of having to work a ``double shift." That is, after a day at the office or factory, women now generally still have to do the housework, cook or whatever; if they have a family, children, it is doubly hard. No better picture has been drawn of this situation than the one by Ann Berk (*My Turn*, Newsweek, September 29, 1980): ``Most working women in their 30s and 40s are physically exhausted and emotionally drained, hysteria nibbling around the edges of their lives. They're the ones who still believed in having babies, who were taught to please men and sometimes even enjoyed it. And while they no longer worry about floors you can eat off, they find it hard to shelve their children's needs and the desires, however quaint in 1980, of their men. Those in their 20s who think they have a lock on sanity, because they've decided against having children and permanent attachments, may wake up when they're 50, if they haven't succumbed to a heart attack or lung cancer, to find themselves curiously empty.

``However women play it, there are hard choices to be made that all entail loss -- and while that career clock is ticking away, so is the lifeline to the rest of the territory that remains steadfastly theirs. For babies still usually turn to their mothers, women still usually keep the children after a divorce, do the cooking, the cleaning and laundry and decorate the house and call the plumber. There are still ballet lessons and piano and softball practice, dental appointments and teacher conferences, and no one has yet found a way to eliminate adolescence.

The beat goes on -- it's merely in double time now." This is the price that our present social system extracts from one segment of the population. The march of technology has pushed women out of their traditional, historic roles, but the Price System has not ``moved over," has not made way for the social change that technological innovations have created.

### **Myths of the Price System**

It must be borne in mind that the Price System is a system of disadvantage. So long as it exists, so long as we try to operate under a Price System, someone, or some group, or race, will be exploited by the small minority that has succeeded under the rules of the game. Women have long been on the receiving end of this system of disadvantage. Men have promoted this, to a large extent, because of a belief that women are a threat to their jobs. In a Technocracy, this threat will not exist. Many myths regarding the relationships between men and women have already been laid to rest by the implacable march of technology.

Up until the 17th century it was known by all the most learned men and the ecclesiastics that men were the dominant factor in procreation. In some societies it was thought that men were the sole factor and women merely incubators. Then the microscope was developed! Although it took a couple more centuries or so of trial and error, (refining of the lenses to make it more accurate and workable), in 1854 someone observed the fusion of the ovum and sperm (this in the sperm and egg of a frog!). So, there was the irrefutable evidence of the female being equally responsible and a full partner in the creation of

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another life. (In some circles it was even conceded that the female might, after all, have a soul!).

This startling development (fusion of the sperm and ovum) shattered ten thousand years of ignorance, superstition and bigotry regarding women.

Unfortunately, new myths developed which were just as denigrating to women: it was felt that women's brains were too fragile for higher education and that women were unable to fend for themselves; they must have a man to take care of them. It was held that women were unfulfilled unless they were pregnant and caring for children. ``Barefoot and pregnant" was only one of many derogatory terms expressing this view. With the world filling up with people, both men and women are waking up to the fact that procreation, unchecked, threatens the very survival of mankind.

The myth that this is a ``man's world" and woman merely an extension of the male, a subordinate being, is being shattered by the march of technology. Also, the march of technology is obliterating the line between ``woman's work" and ``man's work." Women are not inferior, nor are they superior to men; they are different, but of equal importance. They are both energy-consuming biological entities. In a Technocracy, no differentiation will be made as to sex, as far as incomes are concerned. Neither the male nor female will be penalized for being male or female.

The really hard work is done by extraneous energy today. Muscle power is on the way out as far as having to make a living by it. A restructuring of the entire social mechanism would eliminate many problems; they just would not exist. Many jobs for which women now compete will be eliminated -- advertising, for one. One of the most powerful mediums in which the myth of women's inferiority is promulgated is television commercials and programs. As Kathleen Newland has pointed out (*Sisterhood of Man*, W.W. Norton & CO.), they usually depict women as ``economically and psychologically dependent, deceitful, incompetent, indecisive, foolish and cruel, or competitive toward other women." In another study, women in ads were almost exclusively portrayed as sex objects or ``moronic housewives obsessed by cleanliness."

Huckstering being one of the mainstays of the Price System, it would be impossible to eliminate this bias, because it is too profitable. Given the number of hours devoted to TV viewing by the majority of people, it is easy to understand the difficulty of changing the image the world has regarding women. To quote from a report in the *Unesco Courier* of July, 1980, written by Margaret Gallaqher, ``In many ways mass media systems are a reflection, in microcosm, of distribution of power and control . . . In the sense that cultural agents of institutions contribute to the socialization process within systems which are directed by political and economic imperatives, the mass media's role is primarily to reinforce definitions and identities set in a framework constructed for, and by, men."

In other words, the status quo will be maintained as long as it is profitable. Only by elimination of the entire system of disadvantage can both men and women develop to their full potential.

This does not mean that there would be no conflicts between the sexes. Far from it. Given the orneriness and cussedness of the human race, there would still be much for the Social Sequences to do in this field. This would be a special sequence that would concern itself with human relations. Although our present judiciary system presides over conflicts between humans, the litigation is over property rights, for the most part -- attorneys battling each other in a ``court of law." Under the Price System, justice is on the side of the most money. The personnel in a Technocracy would have no such restrictions. Any conflict

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between humans would be dealt with by the most objective and impersonal methods available. Competing for jobs will not be a point of conflict except only so far as ability goes. Women and men will be trained and given every opportunity to develop whatever skills they have. They will not receive an income for what they know or do, but because they are citizens of this Continent.

### **A proper goal**

The energies of women, today, can be directed toward the elimination of a system that uses the most flagrant, obscene processes of wasteful destruction of resources to maintain itself. The evidence is before us in many ways -- and tolerated by men and women alike. Women have been as short-sighted as men (equally so!) when it comes to interpreting the events that are unfolding before our eyes: the disappearing species of birds and animals of various kinds; the disappearance of our most valuable prime farmland; the disappearance and ravaging of forests all over the world -- for the sake of profits; the exploding populations that make more and more demands on the world's dwindling resources. Women have pursued the same short-sighted goals as men -- jobs, possessions, prestige.

Paradoxical as it sounds, unless we do institute a system of scientific governance, a scientific method of production and distribution on this Continent, and soon, we shall not even have any descendants to study us the way we now study our ancient ancestors. We shall have to institute a system that treats all humans equally, male and female; black, brown, white or purple; not especially because of any humanitarian reasons, but because it is too costly and too wasteful of resources to maintain this Price System.

Technocracy offers a higher standard of living than has been imagined by even the most affluent, with none of the pressures or the need to be wary of someone taking it away that exists today. In a Technocracy, there would be no ``second class" citizens because all incomes would be equal. And the irony is that we had better do this or else our very survival will be in jeopardy. We can no longer afford to continue to indulge ourselves in the wasteful degradation of our resources for frivolous, throw-away junk.

We must institute a system wherein only the optimum design will be used, whether it be in cars, homes or household equipment of whatever kind -- designs that will last. It can be done. And, for the first time in the history of the world, women will be accepted for what they are: part and parcel of the human race on an equal basis with men.

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